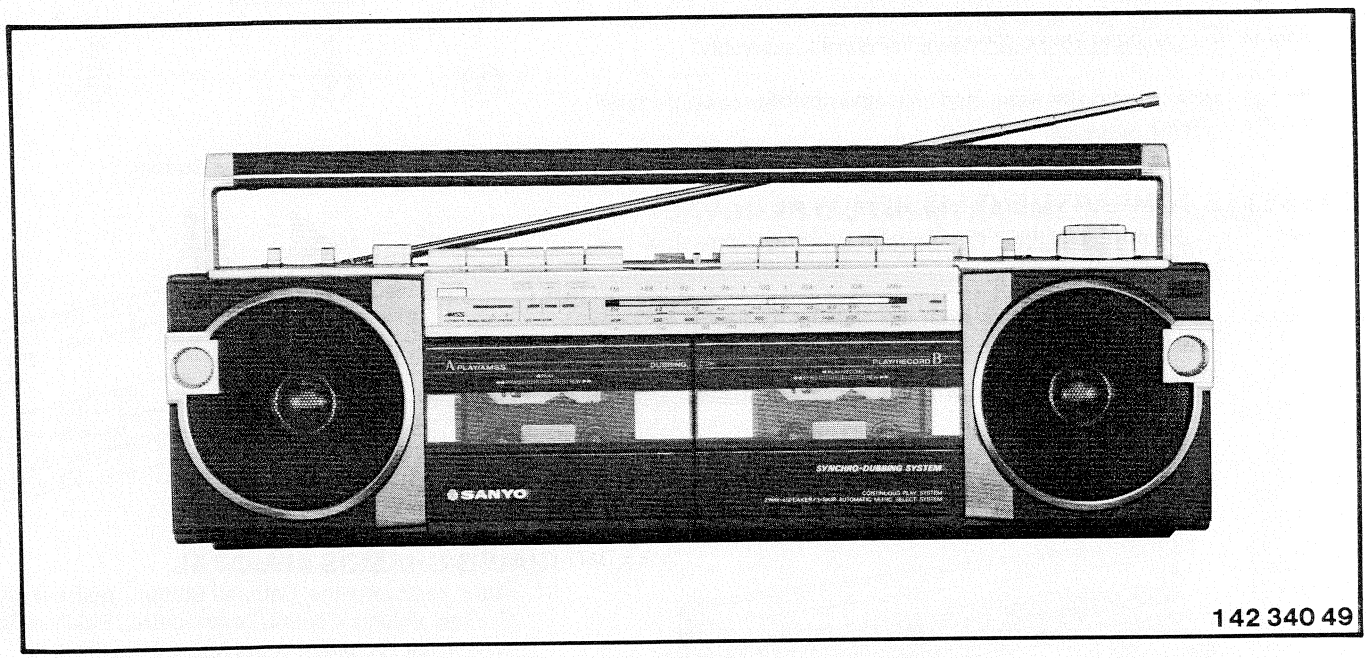
SERVICE MANUAL

SANYO

STEREO RADIO DOUBLE CASSETTE RECORDER

M-W15LU

EUROPE



142 340 49

SPECIFICATIONS

Power Source	
AC	115V/230V (50/60Hz)
DC	10.5V (UM-2, HP 11, C Cell, Babyzelle, R 14) x 7
Output Power (Max. music power)	6.5W x 2 (Max.)
Power Consumption	13W
Current Consumption (at Vol. Min.)	
Record mode (with Metal)	230mA
Playback mode	160mA
Fast Forward mode	130mA
Rewind mode	130mA
Recording System	AC Bias
Erasing System	AC Erasing
Tape Speed	1-7/8ips. ±3%
Wow & Flutter	0.15%, WRMS
Fast Forward/Rewind Time	110sec. (with C-60)
Frequency Response (Overall)	
Fe_2O_3	70Hz ~ 13,000Hz
CrO_2	70Hz ~ 15,000Hz
Metal	70Hz ~ 16,000Hz
Erase Ratio (Overall, with Fe_2O_3)	60dB
Signal to Noise Ratio (with Fe_2O_3)	48dB
Crosstalk (with Fe_2O_3)	
Track to Track	50dB
Harmonic Distortion (K3, with Fe_2O_3)	5%
Hum & Noise (at Vol. Min.)	−60dBs
Input Sensitivity and Impedance	
MIC.	0.3mV/3.3kΩ
LINE IN	100mV/100kΩ
Output Level and Impedance	
LINE OUT	400mV/2.2kΩ
Ext. Speaker	3.2Ω
Headphones	3.2Ω ~ 32Ω
Oscillation Frequency	63kHz
Frequency Range	
LW	150 ~ 350kHz
MW	525 ~ 1,605kHz
SW	6 ~ 18MHz
FM	87.5 ~ 108MHz

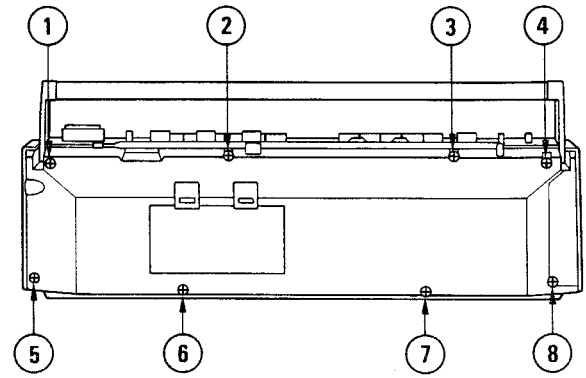
−Specifications subject to change without notice.−

NOTE:
The above mentioned specifications are mainly based on the IHF measurements standard. They can therefore not directly be compared with specifications based on the DIN standard or other standards.

DISASSEMBLY INSTRUCTIONS

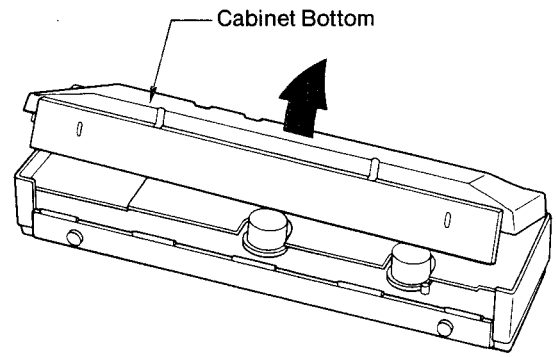
GENERAL REMARKS

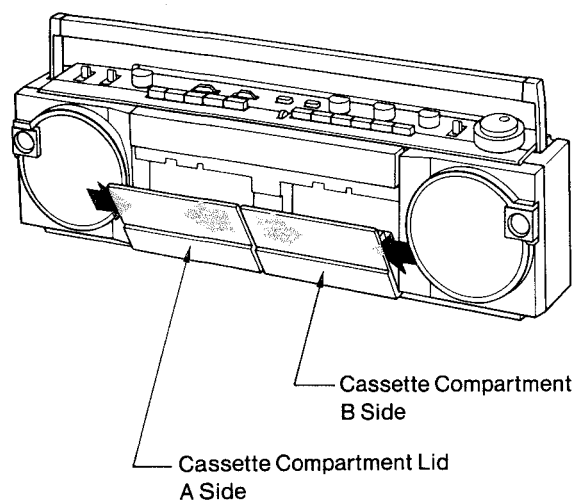
- Before disassembling the unit, spread a soft rubber mat or a cloth on the work bench to avoid scratches and grease stains.
- Do not spread anything which is likely to cause static electricity because transistors and ICs may be easily damaged by it.
- Reassemble the unit, noting the kinds of screws and the soldering and arrangement of the leads. Refer to "Circuit Diagram and Exploded Views" for correct assembly.
- Before disassembling the unit, take out the cassette tape and the batteries.



CASSETTE COMPARTMENT LID REMOVAL

1. Open the Cassette Compartment Lid by pressing the STOP/EJECT button.
2. Unlock the compartment latches from the Cabinet Top by pressing both sides of the Lid strongly. Then, the lid can be easily removed.





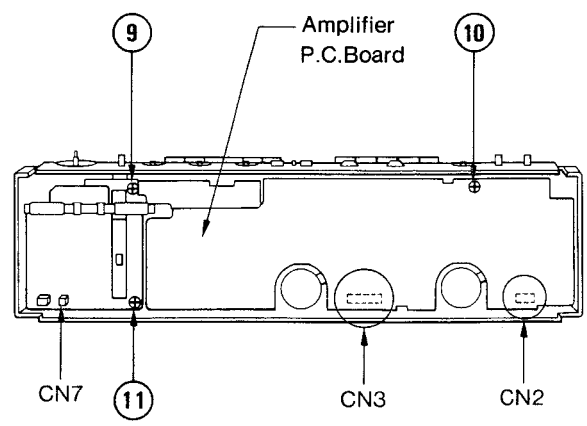
3. Reassemble in reverse order.

CABINET BOTTOM REMOVAL

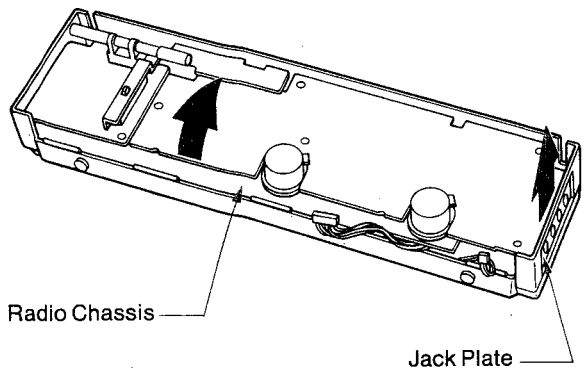
1. Remove the battery compartment lid and remove the eight screws (1 ~ 8) fastening the Cabinet Bottom.
2. Detach the Cabinet Bottom by lifting it in the direction of the arrow and then, pull out the connector of the antenna from the Radio Tuner P.C.Board and the two connectors of the Power Supply P.C.Board from the Amplifier P.C.Board.

RADIO CHASSIS REMOVAL

1. After removing the Cabinet Bottom, pull out the Handle, Tuning, Volume Control, Tone Control, Balance Control, and Mixing Mic. Volume Control Knobs from the unit.
2. Pull out the two connectors (CN2 and CN3) from the Amplifier P.C.Board and the connector CN7 from the Radio Tuner P.C.Board.
3. Remove the three screws (9 ~ 11) fastening the Radio Chassis.
   After the Jack Plate side of the Radio Chassis is lifted up, detach the Radio Chassis by lifting it in the direction of the arrow.



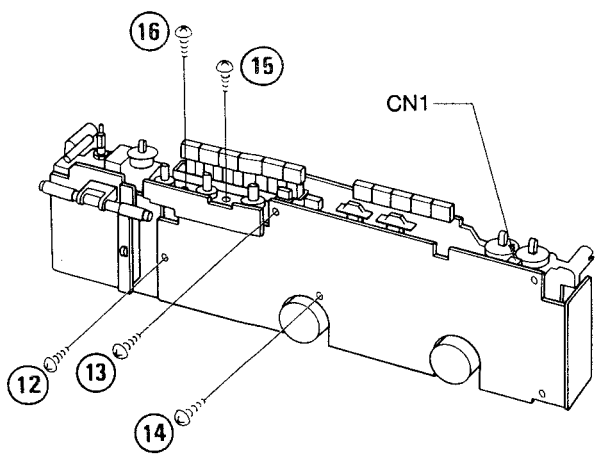
DISASSEMBLY INSTRUCTIONS (Continued)



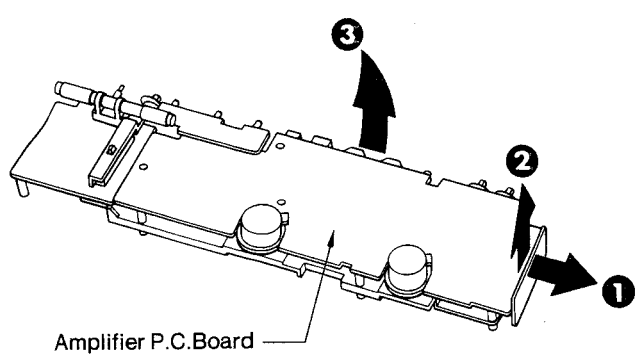
4. Reassemble in reverse order.

AMPLIFIER P.C.BOARD REMOVAL

1. Follow the instructions for the Cabinet Bottom Removal and remove the three screws (12 ~ 14) from the Amplfier P.C.Board and the two screws (15 and 16) from the Volume Control P.C.Board.



2. Pull out the connector CN1 from the Amplifier P.C.Board. Then, detach the P.C.Board by lifting it in the numerical order as illustrated noting the motor terminal and lead wires.

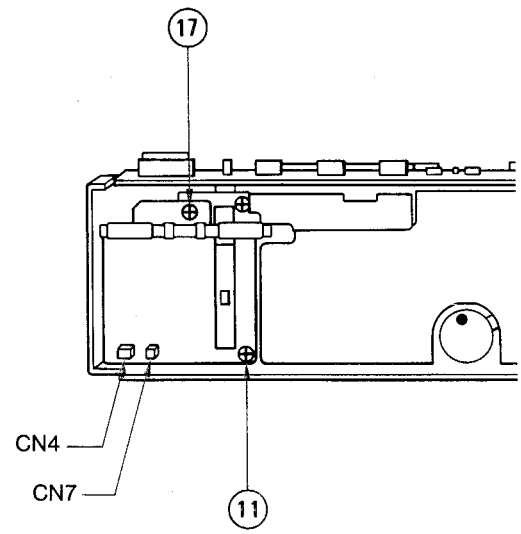


3. Reassemble in reverse order.

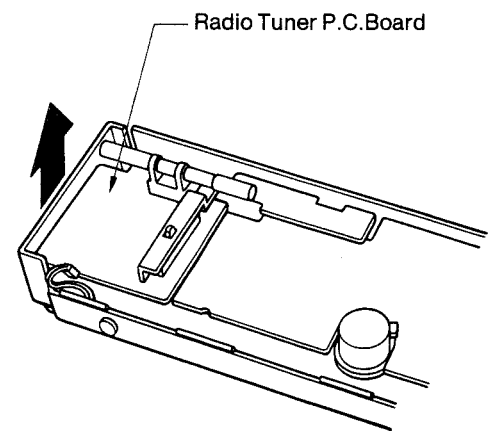
RADIO TUNER P.C.BOARD REMOVAL

1. Follow the instructions for the Cabinet Bottom Removal and fully turn the Tuning Knob in an arbitary direction.

2. Pull out the two connectors (CN4 and CN7) from the Radio Tuner P.C.Board and remove the two screws (11 and 17) fastening the Radio Tuner P.C.Board.



3. Detach the P.C.Board by lifting it in the direction of the arrow.



4. Reassemble in reverse order.

NOTE:

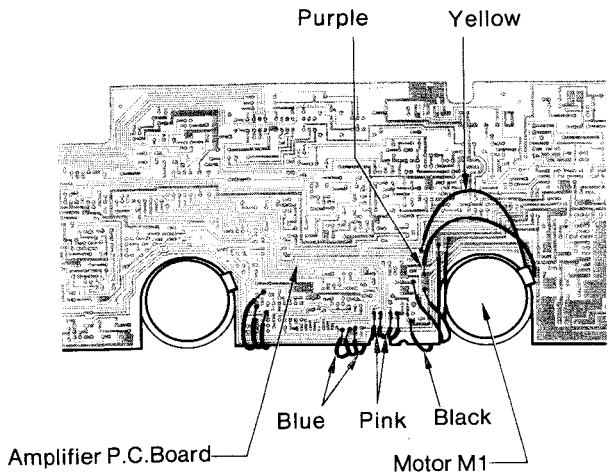
* Do not turn the Tuning Shaft before the Radio Tuner P.C.Board is re-mounted to the unit.
* When the Radio Tuner P.C.Board is mounted, insert the shaft of the variable capacitor into the hole on the drum. After that, check to see that correct dial indications are obtained.

DISASSEMBLY INSTRUCTIONS (Continued)

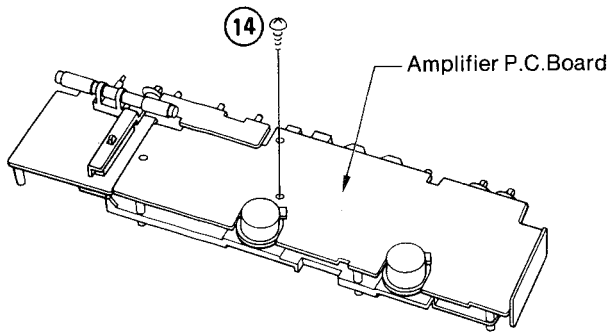
MECHANISM CHASSIS REMOVAL

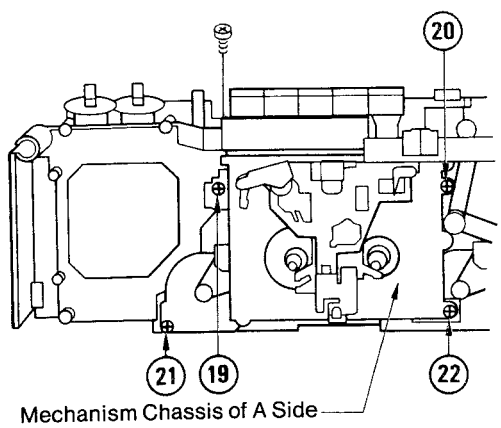
A Side

1. Detach the Radio Chassis from the unit by following the instructions for it.
   Unsolder the following leads running from the Mechanism of the Amplifier P.C.Board.
   * Two leads (yellow and violet) of the Motor M1
   * Two leads (pink) of the Power Switch S11
   * Two leads (blue) of the F.FWD/REW Switch S15
   * One lead (black) of the Flywheel Support



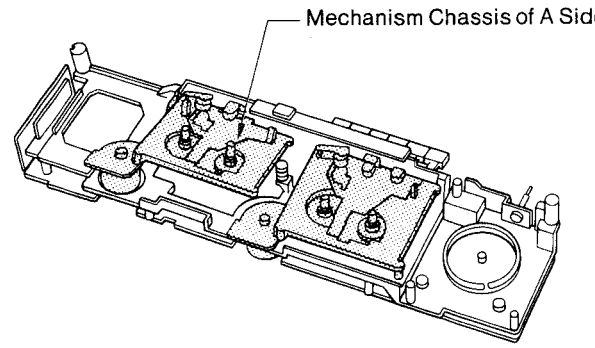
2. Remove the screw (14) fastening the Amplifier P.C.Board. Detach the Stop Switch (S16) by removing the fastening screw (18). Then, remove the four screws (19 ~ 22) fastening the Mechanism Chassis of A Side.

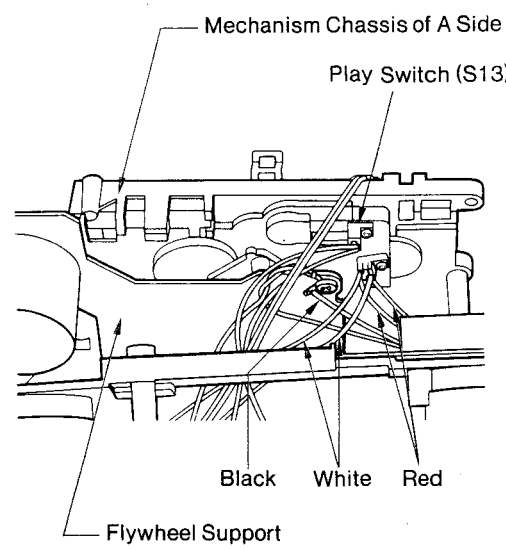




3. Lift up the Mechanism Chassis noting the lead wires and unsolder the following leads.
   * Four leads (two white and two red) of the Play Switch (S13)
   * One lead (black) of the Lug on the Flywheel Support

   Then, detach the Mecahnism Chassis of A Side the noting lead wires.





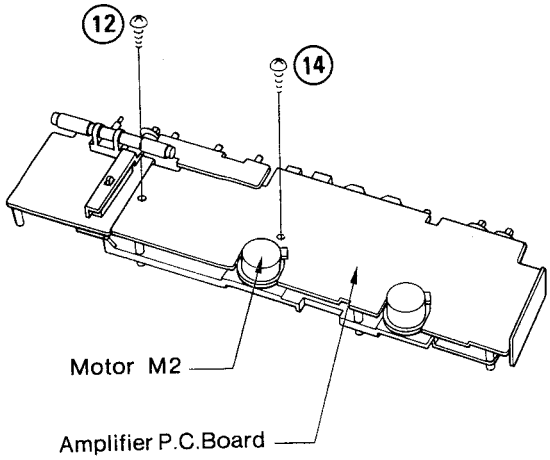
4. Reassemble in reverse order.

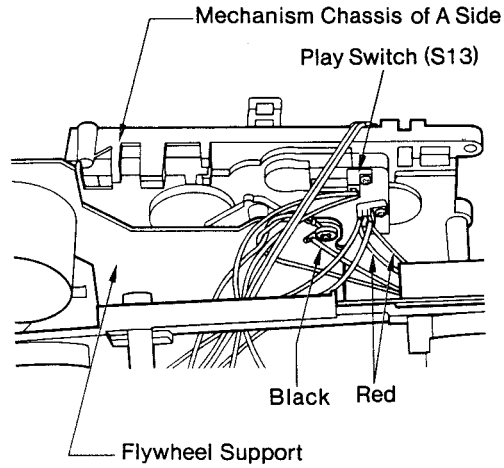
B Side

1. After detaching the Radio Chassis, remove the two counter belts. Then, unsolder the two leads (brown and glay) of Motor (M2) from the Amplifier P.C.Board.

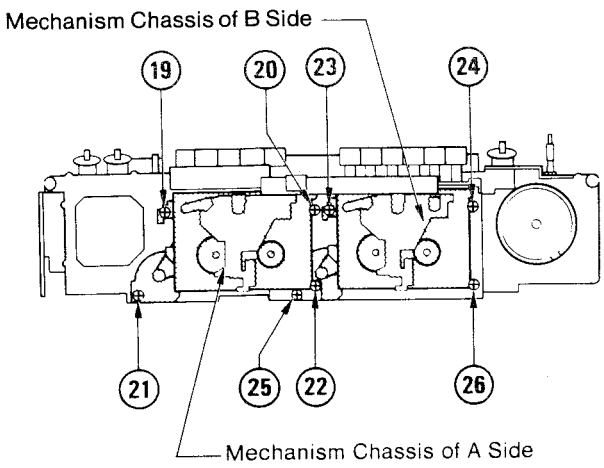
2. Remove the two screws (12 and 14) fastening the Amplifier P.C.Board and the eight screws (19 ~ 26) fastening the Mechanism Chassises of both sides.

DISASSEMBLY INSTRUCTIONS (Continued)

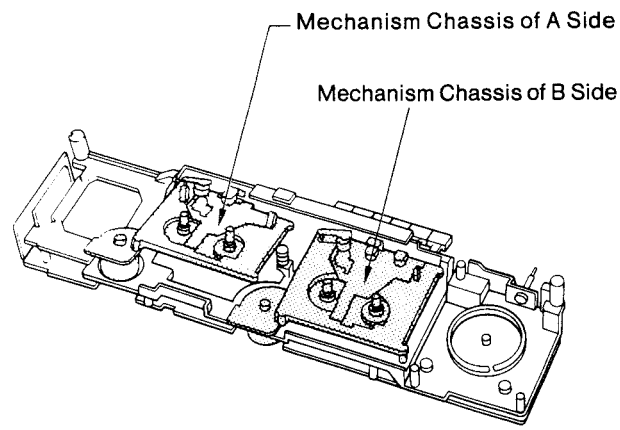




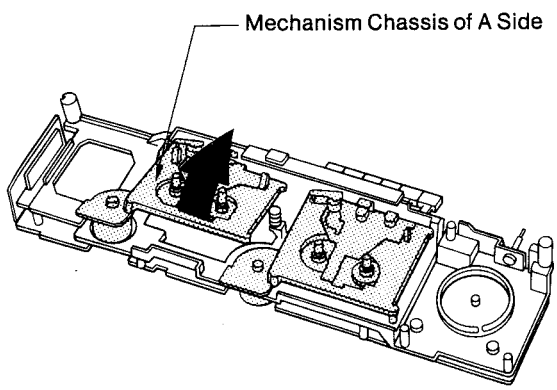
4. Detach the Mechanism Chassis by lifting it in the directions of the arrow noting the Mechanism Chassis of A side and lead wires.



3. Lift up the Mechanism Chassis of A Side noting the lead wires and unsolder the following leads.
   * Two leads (white and red) of the Play Switch (S13)
   * One lead (black) of the Lug on the Flywheel Support



5. Reassemble in reverse order.



NOTICE ON REASSEMBLY

1. Refer to "Wiring Diagram" for re-wiring.
2. Refer to "Exploded Views" for reassembly of the Mechanism.
3. Check to see that the lead wires or electrical components do not touch the driving mechanism.

ADJUSTMENT PROCEDURES

GENERAL REMARKS

- Before the adjustments, wipe off stains on the tape contacting surfaces of the parts, the belt and pinch roller with a soft cloth soaked in alcohol. Trouble may occur because of oil and grease stains.
- Carefully handle the belt because grease easily attaches to it.
- Check the rubber-used parts, If the rubber has quality deterioration or scratch marks, replace the part with a new one.

EQUIPMENT REQUIRED

- VTVM (2 sets)
- Frequency Counter
- Dummy Load (47kΩ)
- Dualtrace Synchroscope
- DC Constant-voltage Regulator
- Test Tapes
  - * 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - * 10kHz Test Tape (Example: TEAC MTT-114) for Head Azimuth Adjustment
- Alignment Tool

Unless especially specified, set the switches and controls as follows:

- Tape Select Switch of A side ..... NORMAL
- Tape Select Switch of B side ..... NORMAL
- Function Switch ..... TAPE
- Mode Switch ..... STEREO
- Tape Operation Switch ..... MANUAL
- Beat Cancel Switch 1
- Balance Control ..... Center (click position)
- Tone Control ..... High
- Volume Control ..... Arbitrary

NOTE:

- * Obtain the output from the LINE OUT.
- * Supply 10.5V DC from the constant-voltage regulator to the Ext. Power Jack.

AMSS SOLENOID ADJUSTMENT

AMSS (Automatic Music Select System) detects a silent space (unrecorded portion) between each music on a musictape and automatically plays back a desired music from the start.

NOTE:

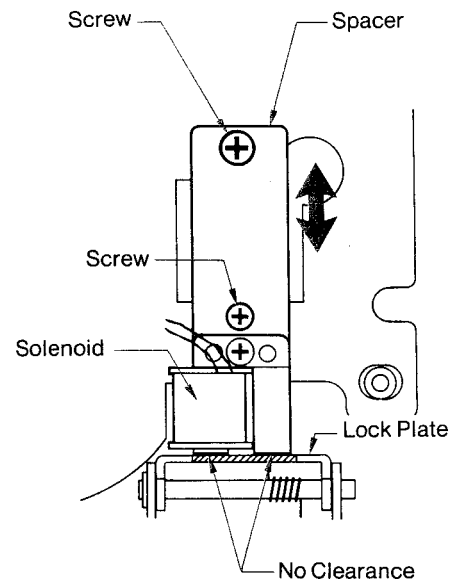
The unrecorded portion should last for more than approximately 4 seconds.

It may not operate correctly in the following cases:

- * When the recorded sound is often interrupted as in a speech tape.
- * When the silent space does not last long enough (less than 4 seconds).
- * When there is an appreciable noise in the silent space between two adjacent programs.
- * When the unit is placed on a television set, AMSS may not operate correctly due to adverse effect of the TV signal. In this case, put the unit away from the television set.

If AMSS Solenoid is not correctly positioned, AMSS Switch does not function correctly, F.FWD or Rewind button is released while AMSS is working, or a button may not be locked. In this case, perform the adjustment as follows:

1. Remove the Mechanism Chassis from the unit by following its removal instructions.
2. Loosen the two screws fastening the Spacer of the Solenoid and adjust the Spacer by moving it in the direction of the arrow, so that the Lock Plate is tightly attached to the two absorption surfaces of the Solenoid as illustrated.



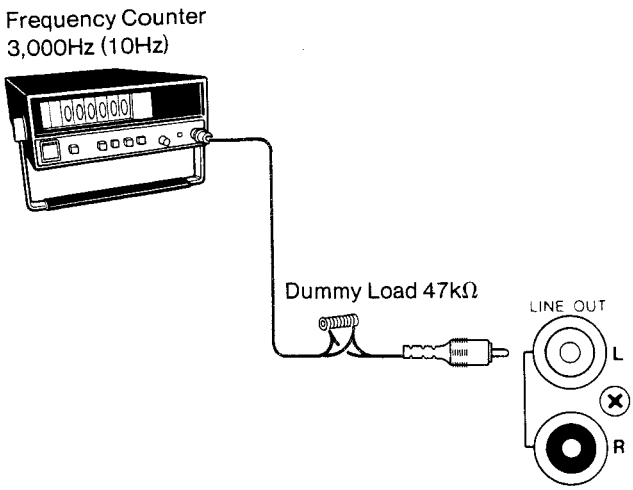
3. After the adjustment, tighten the screws.
   Set the unit in the playback mode and check that AMSS mechanism functions correctly as follows:
   - * Check if F.FWD button can be locked by pressing it.
   - * Check if Rewind button can be locked by pressing it.
4. Readjust the spacer position if either F.FWD or Rewind button can not be locked or is soon released.
5. After the confirmation, secure the screw with paint or glue.

TAPE SPEED ADJUSTMENT

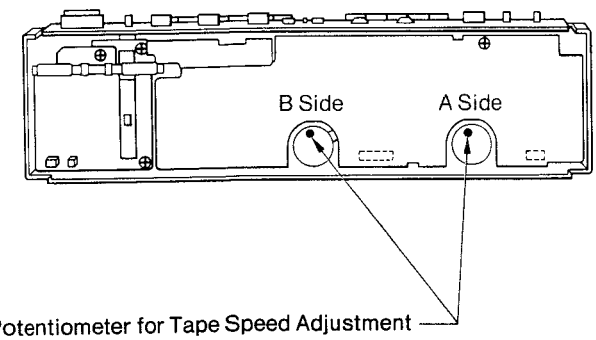
Adjustment of A Side

1. Connect a frequency counter to the left or right channel LINE OUT as illustrated. Then, insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.

ADJUSTMENT PROCEDURES (Continued)



2. Adjust the tape speed by slowly turning the potentiometer inside the Motor of A side until the frequency counter reads 3,000Hz (±10Hz).



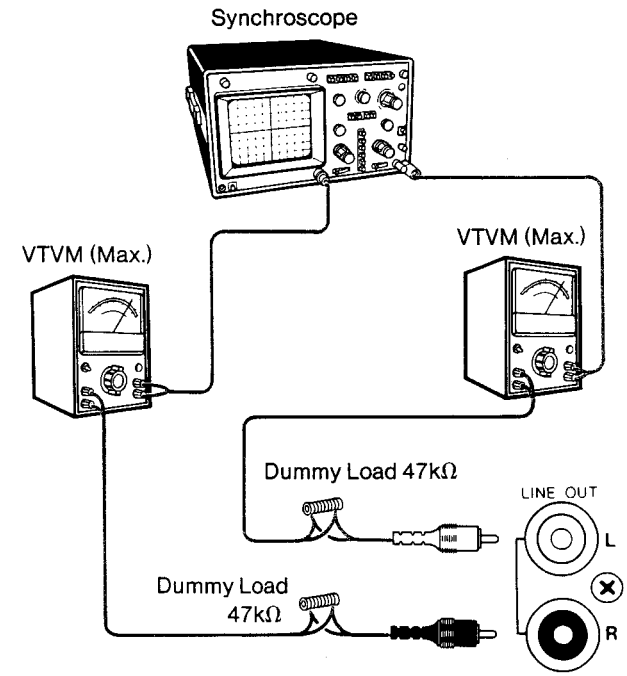
Adjustment of B Side
Adjust the potentiometer inside the Motor of B side by following the same procedure as in A Side.

HEAD AZIMUTH ADJUSTMENT

Detach the cassette compartment lid on both sides from the unit and connect a dualtrace synchroscope and a VTVM to both channel LINE OUT as illustrated.
Then, set the dualtrace synchroscope as follows:

* MODE ..... CHOP (chopped)
* SOURCE ..... INT (internal), CH1 or CH2
* SWEEP MODE ..... AUTO (automatic)

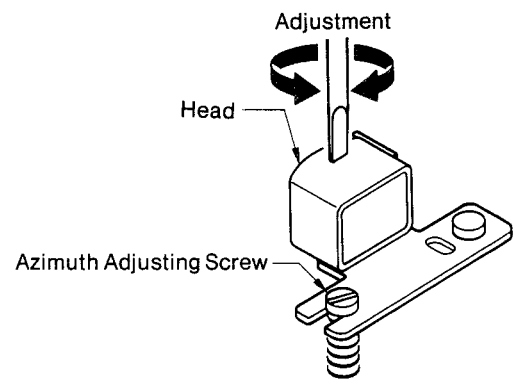
NOTE:
Adjust the field on the synchroscope with the VOLT. ADJ. and TIME ADJ.

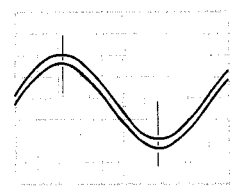


Adjustment of A Side

1. Insert a 10kHz test tape (Example: TEAC MTT-114) into the cassette compartment.

2. While playing back the test tape, turn the azimuth adjusting screw until the wave forms of the right and left channels are superimposed and set to optimum at maximum reading on the VTVM.





A Side = Playback Head
B Side = Record/Playback Head

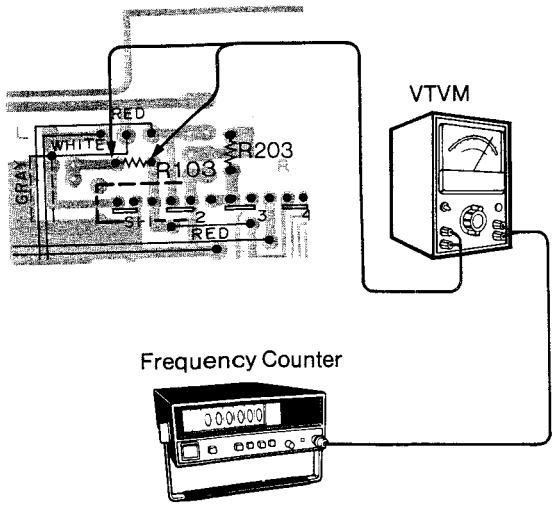
Adjustment of B Side
Adjust the azimuth adjusting screw of B side by following the same procedure as in A Side.

After the adjustment, secure the adjusting screw of both sides with paint or glue.

ADJUSTMENT PROCEDURES (Continued)

OSCILLATION FREQUENCY ADJUSTMENT

1. Connect a VTVM across the resistor R103 or R203 and a frequecy counter to the output terminal of the VTVM as illustrated.
   Set the Tape Select Switch of the B side to Metal position.



2. Insert a cassette tape into the cassette compartment and set the beat cancel switch to the position 1.
   Then, set the unit in the recording mode.

3. Turn the core of the oscillation transformer (T302) with an alignment tool until the frequency counter reads 63kHz (±50Hz).

TUNER ADJUSTMENT

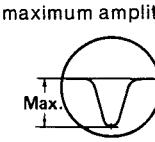
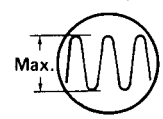
EQUIPMENT REQUIRED

- AM Standard Signal Generator
- FM Standard Signal Generator
- Generator Scope
- Loop Antenna
- Dummy Antenna (30Ω/10pF) for SW
- Ceramic Capacitor (10pF)
- Electrolytic Capacitor (1μF)
- Dummy Antenna (75Ω, unbalanced type) for FM
- Carbon Resistor (100kΩ)
- VTVM
- Oscilloscope
- Frequency Counter
- Dummy Load (3.2Ω)
- Alignment Tool
- Before performing the adjustment, set the switches and controls as follows:
  - ‡ Function Switch ..... RADIO
  - ‡ Mode Switch ..... MONO
  - ‡ Balance Control ..... Center (click position)
  - ‡ Tone Control ..... High
  - ‡ Volume Control ..... Center

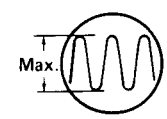
NOTE:
Use an alignment tool with plastic grip for all adjustments.

MW ALIGNMENT

Standard Test Frequency 400Hz and Modulation 30% at AM

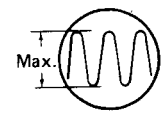
Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF for AM	Connect loop antenna to output terminal of gene-scope. Place loop antenna 60cm away from bar antenna.	Connect input terminal of gene-scope to detector output terminal Pin 13 of IC2 (TP5) through capacitor 1μF.	460kHz	Low End	T2	Obtain symmetrical curve and maximum amplitude. 
2	Calibration of Tuning Range	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM with 3.2Ω dummy load and oscilloscope to Ext. Speaker jack.	510kHz		T6	Obtain sine-wave of 400Hz and maximum amplitude. 
3				1,670kHz	High End	TC4	
4	Adjustment of Tracking			600kHz	600kHz	L4-1 (bar ant. coil)	
5				1,400kHz	1,400kHz	TC3 (PVC)	
6	Repeat the above steps until no further change is noted in any of the adjustments.						

LW ALIGNMENT

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM with 3.2Ω dummy load and oscilloscope to Ext. Speaker jack.	145kHz	Low End	T7	Obtain sine-wave of 400Hz and maximum amplitude. 
2				365kHz	High End	TC5	
3	Adjustment of Tracking			170kHz	170kHz	L4-2 (bar ant. coil)	
4				310kHz	310kHz	TC2	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

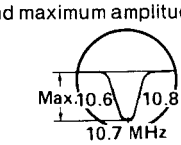
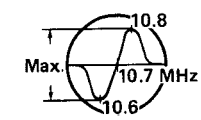
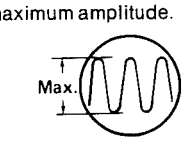
TUNER ADJUSTMENT (Continued)

SW ALIGNMENT

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect AM signal generator to antenna terminals (TP1 and TP2) through dummy antenna (30Ω/10pF).	Connect VTVM with 3.2Ω dummy load and oscilloscope to Ext. Speaker jack.	5.7MHz	Low End	T5	Obtain sine-wave of 400Hz and maximum amplitude. 
2				18.7MHz	High End	TC3	
3	Adjustment of Tracking			6.5MHz	6.5MHz	T4	
4				17.0MHz	17.0MHz	TC1	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

FM ALIGNMENT

Standard test frequency 400Hz and deviation 22.5kHz

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF	Place output of gene-scope to Pin 3 of IC1 (TP4) through capacitor (10pF).	Connect input terminal of gene-scope to detector output terminal Pin 13 of IC2 (TP5) through capacitor 1μF.	10.7MHz	Low End	Turn T3(blue core) fully counter-clockwise and adjust T1.	Obtain symmetrical curve and maximum amplitude. 
2						T3 (blue core)	Obtain **S** curve and maximum amplitude. 
3	Calibration of Tuning Range	Connect FM signal generator to antenna terminals (TP1 and TP2) through dummy antenna (75Ω, unbalanced type).	Connect VTVM with 3.2Ω dummy load and oscilloscope to Ext. Speaker jack.	87.35MHz		L2	Obtain sine-curve and maximum amplitude. 
4				108.25MHz	High End	TC2 (PVC)	
5	Adjustment of Tracking			90MHz	90MHz	L1	
6				106MHz	106MHz	TC1 (PVC)	
7	Repeat the above steps until no further change is noted in any of the adjustments.						

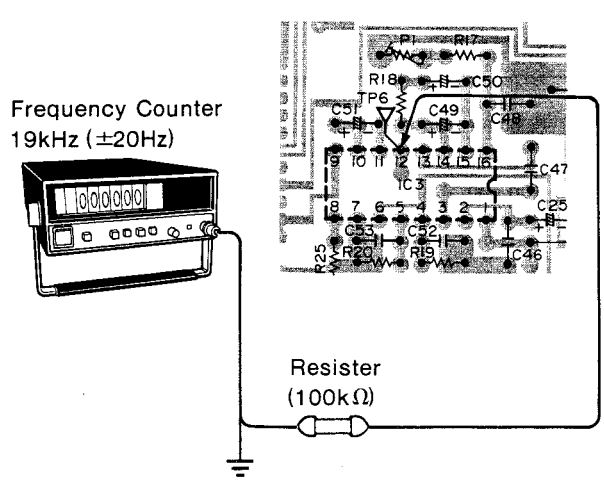
FM MPX (Multiplex) ADJUSTMENT

19kHz (V.C.O.) ADJUSTMENT

1. Before the adjustment, set the switches as follows:
   - Function Select Switch ..... RADIO ON
   - Band Select Switch ..... FM
   - Mode Switch ..... STEREO

2. Connect a Frequency counter to the Pin 12 (TP6) of the IC3 (LA3361) through a resistor (100kΩ).

3. Adjust the potentiometer (P1) until the oscillation frequency of IC3 becomes 19kHz (±20Hz).



DIAL CORD STRINGING

1 Mount the Drum on the Radio Chassis as illustrated and fully turn the shaft of the variable capacitor counterclockwise.

2. Mount the Radio Tuner P.C.Board on the Radio Chassis and then, insert the shaft of the variable capacitor into the Drum.

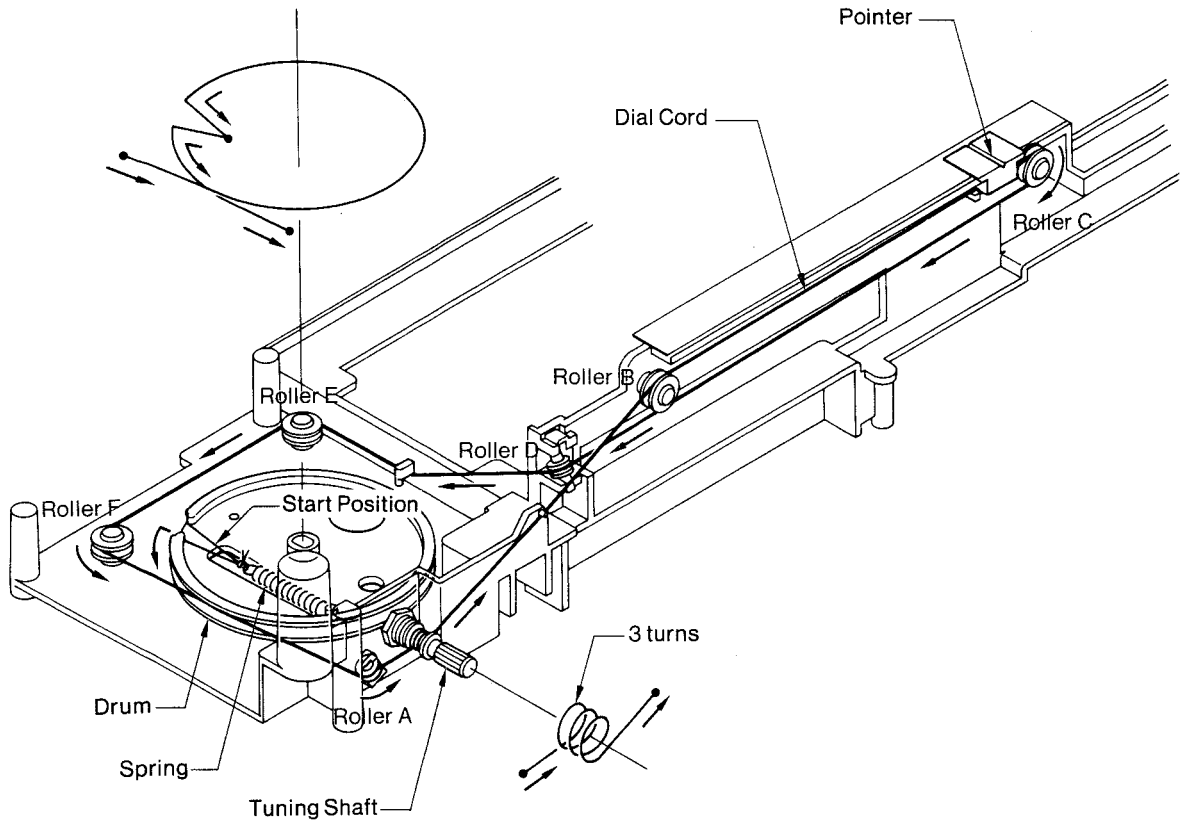
3. Tie the Dial Cord of length 1,050mm (effective length: 990mm) and diameter ϕ0.5 to the Spring and hook the Spring to the illustrated position of the drum.

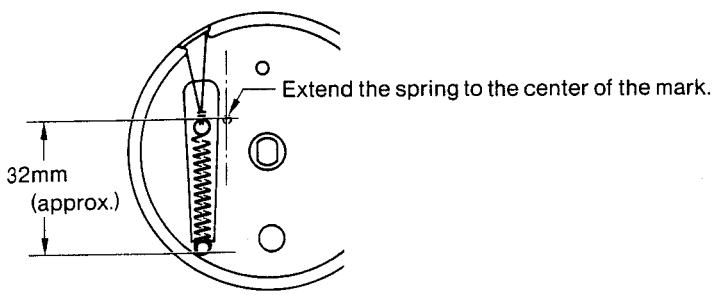
4. Engage the Dial Cord as illustrated in the following order.
Spring → Drum → Roller A → Tuning Shaft (3 turns) → Roller B → Roller C → Roller D → Roller E → Roller F → Drum → Spring

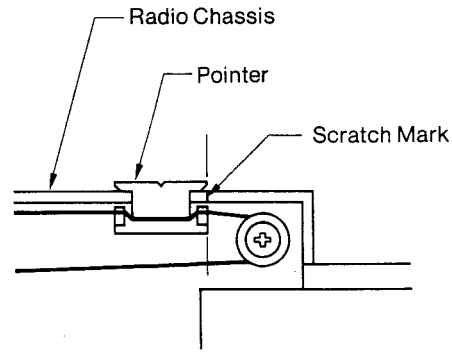
5. Hook the Dial Cord to the Spring and tie the cord where the spring tip expands to the mark on the Drum as illustrated. (Spring length becomes approximately 32mm.)

6. Secure the place where the Spring is hooked to the Drum and knot in the dial cord with paint or glue.

7. Turn the Tuning Shaft counterclockwise until it stops and then, set the Pointer to the scratch mark on the Radio Chassis as illustrated.
Then, secure the pointer there with white lacquer.







PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

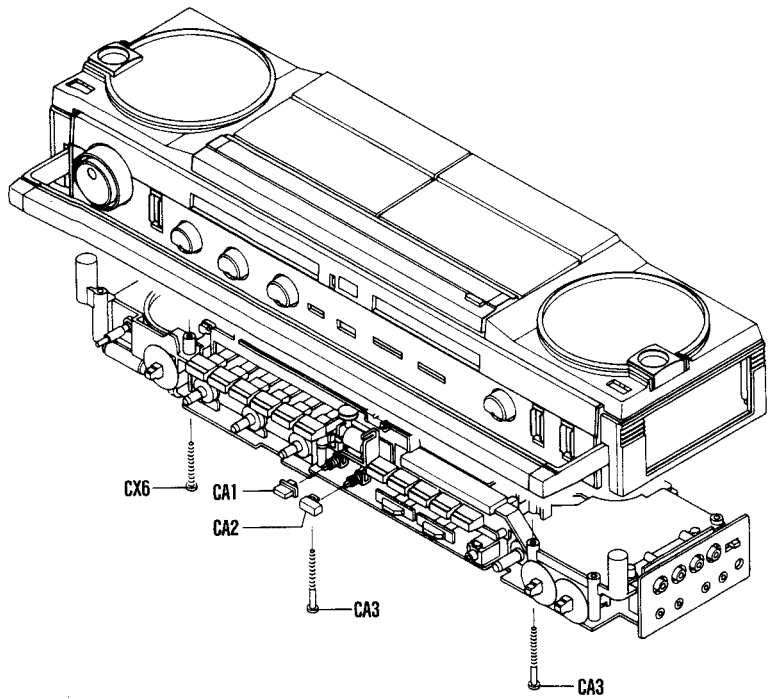
Ref. No.	Part No.	Description	Q'ty
	PACKAGE		
	141 2 1719 20300	Handle	1
	141 6 1419 67803	Indvidual Carton	1
	141 6 1449 86200	Styrofoam Case, Under	1
	141 6 1449 86300	Styrofoam Case, Upper	1
	141 6 1449 86400	Styrofoam Case, Right	1
	141 6 1449 86500	Styrofoam Case, Left	1
	141 6 2519 15590	Poly Cover	1
	141 6 2519 23033	Poly Cover 230 x 330	1
	141 6 3119 19300	Reinforce Handle	1
	141 6 4559 00100	Serial No. Sheet	3
	ACCESSORIES		
	4 2419 72492	Cassette	1
	⚠ 4 2439 70310	Cord Power	1
	141 6 4729 07400	Caution Label	1
	141 6 4729 16700	Caution Label	1
	141 6 4729 37373	FTZ Notice	1
	142 6 4119 31824	Instruction Manual	1
	CABINET		
	141 2 2899 27600	Sheet	2
	141 2 4729 05300	Wire Band	2
	141 2 2899 29700	Sheet, Window Upper	1
	141 2 2899 29800	Sheet, Panel Under	2
	141 2 2899 29900	Sheet, Panel Upper	1
	4 2359 70990	RT Pin Socket	1
	4 1519 71211	Speaker (300Ω) [SP102 & SP202] (Included in CA25)	2
	4 2359 76057	Connector 4P Assy [CN2]	1
CA1	141 2 1659 13600	Rec. Mute Knob	1
CA2	141 2 1659 11100	Switch Knob	1
CA3	141 2 4219 09600	Screw	2
CA4	141 2 3229 42300	Shield Plate	1
CA5	4 2379 70650	Ring Terminal	3
CA6	141 2 4359 33000	Insulator	1
CA7	141 2 3229 42200	Shield Plate	1
CA8	⚠ 4 2519 73831	Power Trans [T301]	1
CA9	⚠ 4 2319 72130	Slide Switch (Voltage Select) [S18]	1
CA10	141 2 4359 21300	Socket Cover	1
CA11	4 1919 71672	Power Supply P.C.B. Assy **[See PCB6]**	1
CA12	141 2 3679 31703	AC Jack Plate	1
CA13	141 2 4219 09800	Screw	5
CA14	141 2 4219 30600	Screw	1
CA15	141 0 1119 90407	Cabinet Bottom Assy	1
CA16	4 2449 70062	Antenna	1
CA17	141 2 4469 42900	Cushion	1
CA18	141 2 1339 29303	Battery Lid	1
CA19	141 2 8529 06201	Spring, Cassette Lid	2
CA20	141 0 1249 24007	Cassette Lid Right Assy	1
CA21	141 0 1249 24006	Cassette Lid Left Assy	1
CA22	141 2 1749 03100	Foot	2
CA23	141 2 4469 36500	Cushion	2
CA24	141 0 1119 90307	Cabinet Top Assy	1
CA25	141 2 4469 35400	Cushion, Mike	2
CA26	4 1329 78800	LED Indicator P.C.B. Assy **[See PCB5]**	1
CA27	141 0 5519 08501	Eject Gear Assy	2
CA28	141 2 7419 77200	Cassette Lid Lock	2
CA29	4 1329 78861	LED P.C.B. Assy **[See PCB7]**	1
CA30	141 2 1639 51400	Volume Knob	4
CA31	141 2 1639 53100	Tuning Knob	1
CA32	141 2 1639 53200	Fine Knob	1
CA33	141 2 2719 18500	Holder Handle	2
CA34	141 2 1719 27800	Handle Arm	2
CA35	141 2 1719 27706	Handle	1
CA36	141 2 1519 38400	Speaker Grille, Right	1
CA37	141 2 1519 38300	Speaker Grille, Left	1
CA38	4 1519 71480	Speaker (3.2Ω) [SP101 & SP201]	2
CA39	141 2 3729 00801	Fix Speaker Bracket	6
CA40	141 2 4729 04100	Lug	1
CX1	102 3 1302 60611	Screw, Pan Hd. Tapping-1 +M2.6x6	1
CX2	102 3 1302 60811	Screw, Pan Hd. Tapping-1 +M2.6x8	2
CX3	102 3 1303 01011	Screw, Pan Hd. Tapping-1 +M3.0x10	10
CX4	102 3 1303 01611	Screw, Pan Hd. Tapping-1 +M3.0x16	3
CX5	103 3 1303 00818	Screw, Pan Hd. Tapping-2 +M3.0x8	2
CX6	143 3 1303 03018	Screw, Pan Hd. Tapping-1 +M3.0x30	1
CX7	102 3 1603 01214	Screw, Oval Hd. Tapping-1 +M3.0x12	2
CX8	102 3 1703 01211	Screw, Bind Hd. Tapping-1 +M3.0x12	2
	RADIO CHASSIS		
	4 2359 75901	Connector 4P Assy [CN1]	1
	141 2 4359 33400	Sheet	1
	141 2 4729 05300	Wire Band	2
DC1	141 2 8519 29400	Spring, Stop Lever	2
DC2	141 2 3519 57700	Eject Arm Bracket	2
DC3	141 2 3519 63900	Chassis Bracket	1
DC4	141 2 8519 78000	Spring, Stop	1
DC5	141 2 5389 03400	Drum	1
DC6	141 2 5119 08600	Pointer	1
DC7	141 2 4459 31400	Cushion	1
DC8	4 1539 70661	Microphone (Built-in) [BM101 & BM201]	2
DC9	141 2 4219 14000	Screw	4
DC10	141 2 5519 03300	Roller Dial A	4
DC11	4 2249 70301	Fine Tuner [FT1]	1
DC12	141 2 7539 25700	Pin Roller Dial	1
DC13	141 2 7539 25800	Pin Roller Dial	1
DC14	141 2 8259 04700	Roller Dial	2
DC15	141 2 7519 62600	Shaft, Counter	1
DC16	141 2 5519 48300	Pulley, Counter	1
DC17	141 2 5649 04500	Counter Belt	1
DC18	141 2 5649 05400	Counter Belt	1
DC19	141 0 3119 22401	Radio Chassis Assy	1
DC20	4 1329 78790	Jack P.C.B. Assy **[See PCB4]**	1

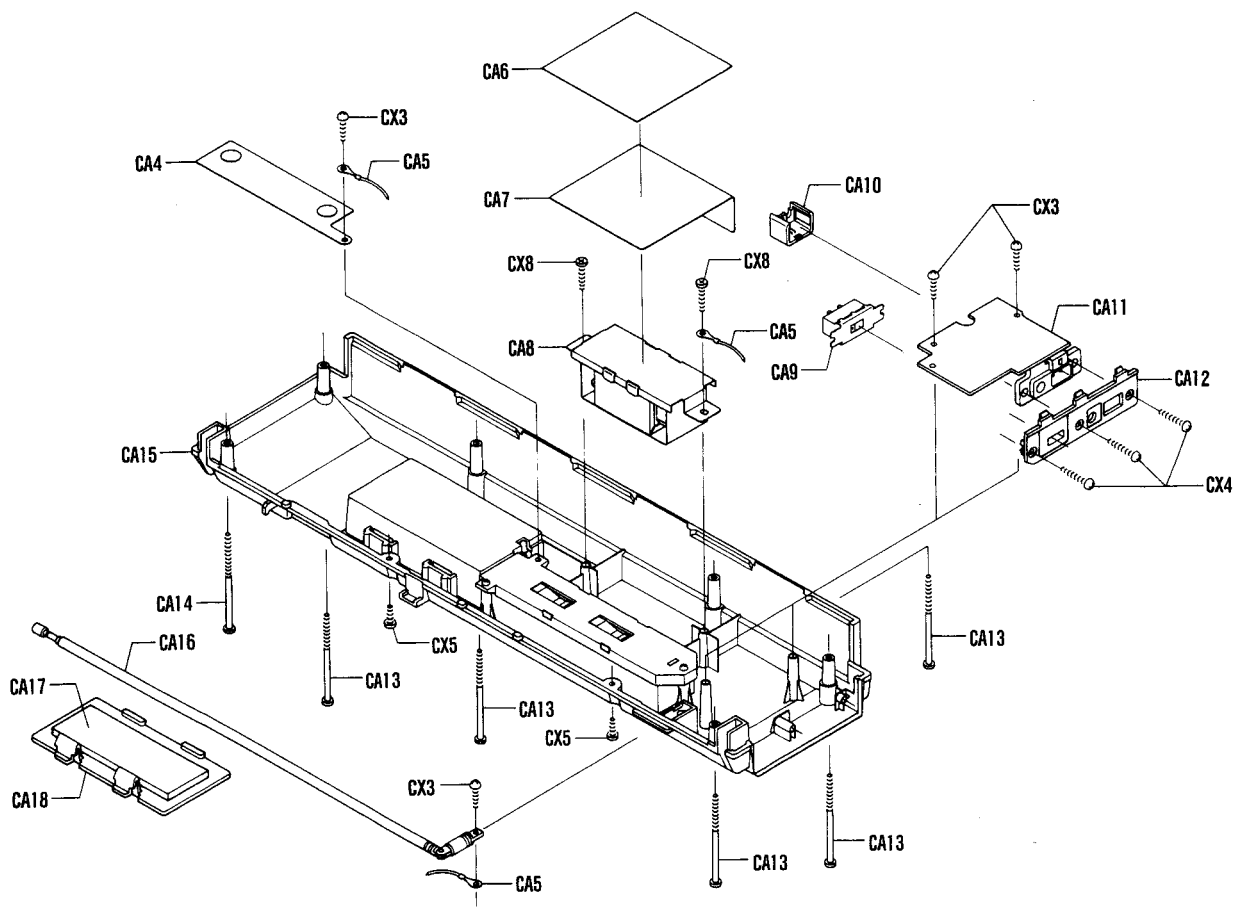
PARTS LIST (Continued)

Ref. No.	Part No.	Description		Q'ty
DC21	141 2 3679 31603	Jack Plate		1
DC22	141 2 3519 64800	Stop Button Bracket		1
DC23	4 2319 72121	Leaf Switch (Stop) [S16]		1
DC24	141 2 8139 09800	Counter Bracket		1
DC25	141 2 8119 12000	Counter		1
DC26	141 2 1639 52400	Counter Knob		1
DC27	141 2 6219 04000	Band Select Lever		1
DC28	141 2 4469 39300	Cushion, Switch		5
DC29	141 2 2419 28200	Screen Switch		3
DC30	141 2 1629 06800	Function Knob		3
DC31	4 1329 78782	Amplifier P.C.B. Assy [**See PCB1**]		1
DC32	141 2 1649 21200	Tape Select Knob		2
DC33	4 1329 78810	Volume Control P.C.B. Assy [**See PCB3**]		1
DC34	4 1259 71931	Radio Tuner P.C.B. Assy [**See PCB2**]		1
DC35	141 2 7319 57100	Band Select Plate		1
DC36	141 2 4219 29700	Screw		2
DY1	628 3 0911 00000	String, ϕ0.5		1
DY2	101 3 1302 60811	Screw, Pan Hd.	+M2.6x8	1
DY3	102 3 1302 60511	Screw, Pan Hd. Tapping-1	+M2.6x5	2
DY4	102 3 1302 60611	Screw, Pan Hd. Tapping-1	+M2.6x6	5
DY5	102 3 1302 60811	Screw, Pan Hd. Tapping-1	+M2.6x8	4
DY6	102 3 1302 61011	Screw, Pan Hd. Tapping-1	+M2.6x10	4
DY7	102 3 1302 61211	Screw, Pan Hd. Tapping-1	+M2.6x12	1
DY8	102 3 1302 61411	Screw, Pan Hd. Tapping-1	+M2.6x14	5
DY9	103 3 1303 01014	Screw, Pan Hd. Tapping-2	+M3.0x10	2

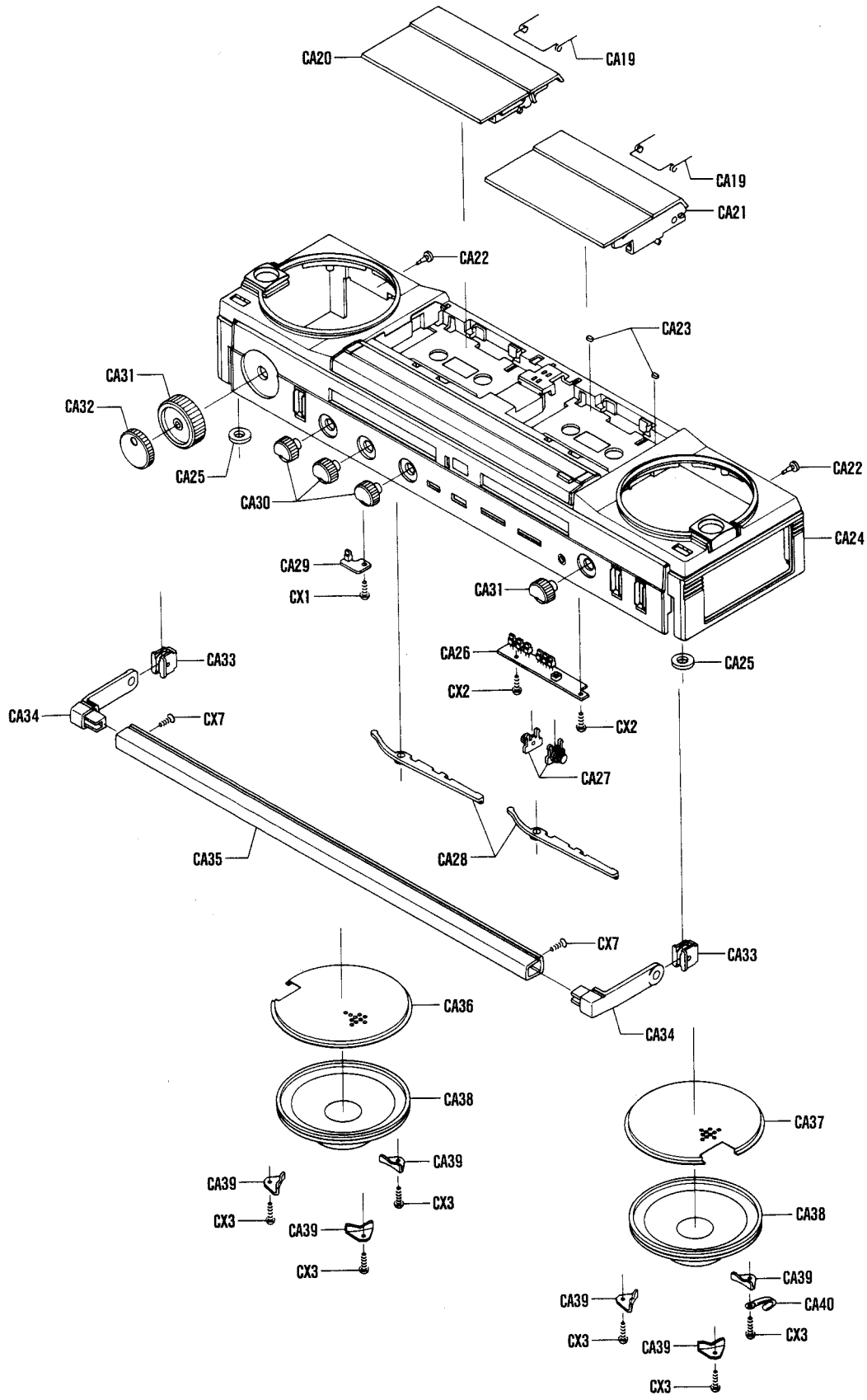
NOTES:
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

CABINET EXPLODED VIEW

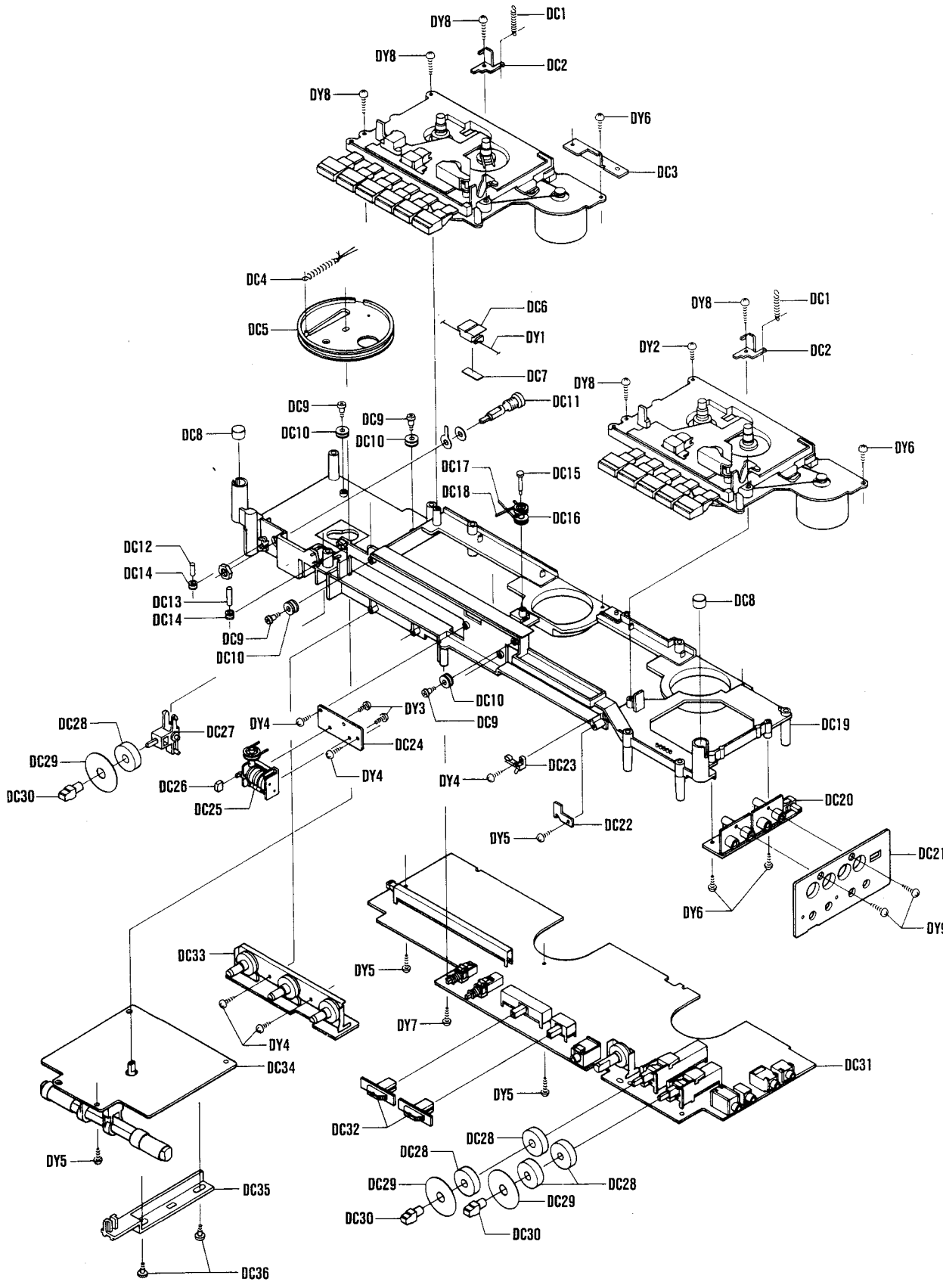




CABINET EXPLODED VIEW (Continued)



CABINET EXPLODED VIEW (Continued)



MECHANISM PARTS LIST

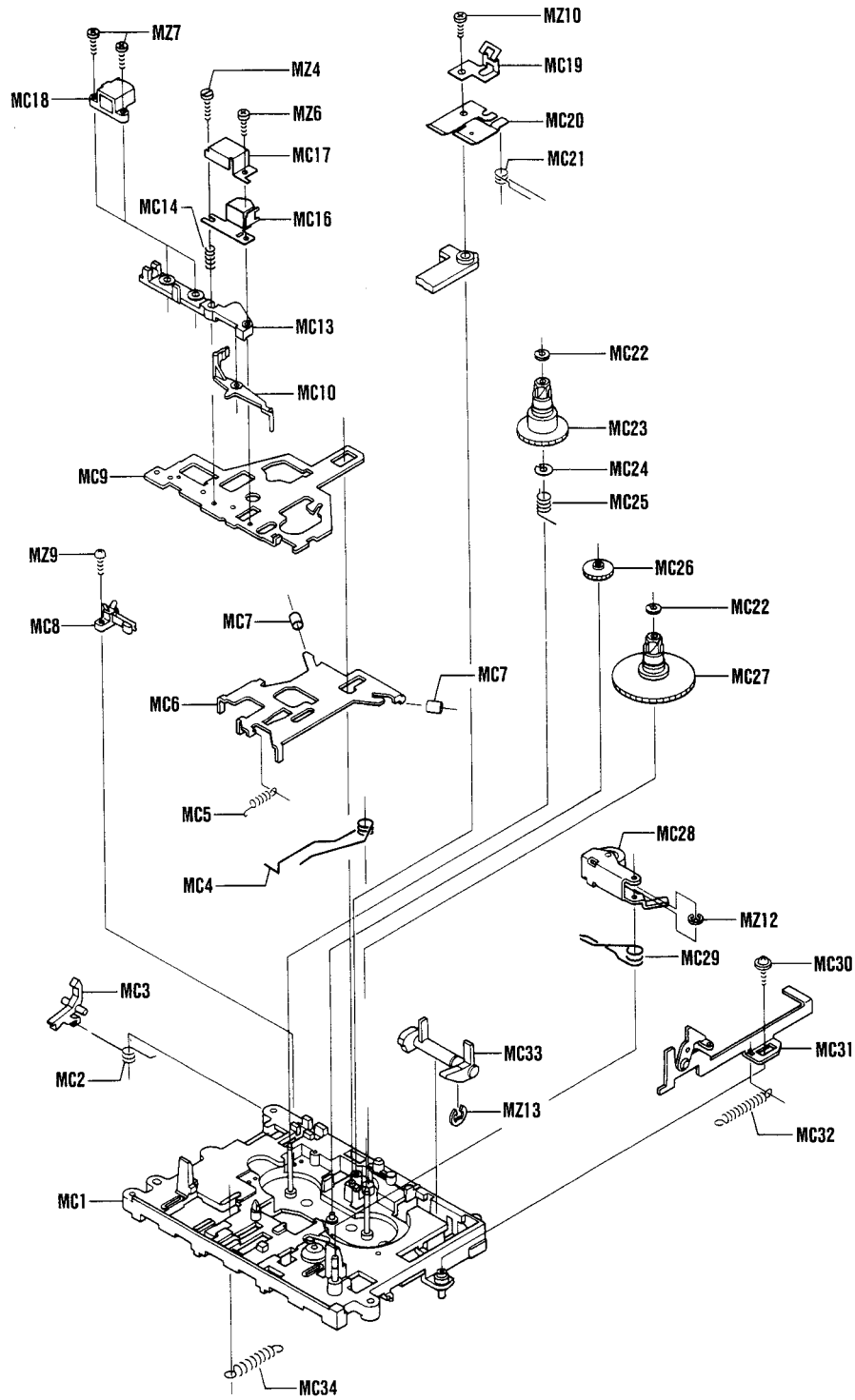
Ref. No.	Part No.	Description	Q'ty
	MECHANISM		
MC1	141 0 3119 19902	Chassis Assy	2
MC2	141 2 8519 97300	Spring, Interlock	1
MC3	141 2 8419 10400	Interlock Lever	1
MC4	141 2 8529 07300	Spring, Idler Arm	2
MC5	141 2 8549 08700	Spring, Brake	2
MC6	141 2 7149 05200	Brake Arm	2
MC7	141 2 4459 25200	Brake Cover	4
MC8	4 2319 72121	Leaf Switch (Power, Tape A) [S11]	1
MC8	4 2319 72121	Leaf Switch (Power, Tape B) [S12]	1
MC9	141 2 7319 43202	Slide Base	2
MC10	141 2 7419 68800	Sensor Lever	2
MC11	141 2 8219 28500	Tape Guide	1
MC12	141 2 3529 27500	Spacer, Head	1
MC13	141 2 3529 29400	Spacer, Head	1
MC14	141 2 8519 47400	Spring, Head	2
MC15	4 2429 72190	R/P Head [HD1]	1
MC16	4 2429 72191	Play Head [HD2]	1
MC17	141 2 3229 41600	Shield Plate Head	2
MC18	4 2429 72200	Erase Head [HD3]	1
MC19	141 2 8539 45200	Spring, Cassette	2
MC20	141 2 8539 41102	Spring, Cassette	2
MC21	141 2 8519 96901	Spring, Cassette-up	2
MC22	141 2 4539 15700	Washer	4
MC23	141 0 5319 05400	Supply Reel Assy	2
MC24	141 2 4539 32000	Washer	2
MC25	141 2 8559 05500	Spring, Supply	2
MC26	141 2 5519 36400	F.FWD Gear	2
MC27	141 0 5319 05301	Take-up Reel Assy	2
MC28	141 0 5419 03200	Pinch Roller Assy	2
MC29	141 2 8519 97200	Spring, Pinch Roller	2
MC30	141 2 4219 13201	Screw w/Washer	2
MC31	141 0 7319 24201	Eject Plate Assy	2
MC32	141 2 8519 38700	Spring, Head Lever	2
MC33	141 2 7419 74900	Cassette-up Lever	2
MC34	141 2 8549 10700	Spring, Slide Base	2
MC35	141 2 7319 49300	Lock Plate	2
MC36	141 2 4539 17200	Washer	2
MC37	141 2 7419 75500	Shut-off Lever	2
MC38	141 2 1659 13500	Pause Button	2
MC39	141 0 7319 25200	Pause Rod Assy	2
MC40	141 2 1659 13000	Stop Button	2
MC41	141 2 7319 49500	Stop Eject Rod	2
MC42	141 2 4219 12100	Screw w/Washer	2
MC43	141 2 7419 75800	Pause Lock Lever	2
MC44	141 2 8529 05700	Spring, Pause Lock	2
MC45	141 2 4539 15800	Washer	2
MC46	141 2 7419 76500	Lock Lever	1
MC47	141 2 8529 05800	Spring, Lock Lever	1
MC48	141 2 3519 57100	Bracket Plate	2
MC49	141 2 7519 55300	Spindle Lock Lever	1
MC50	141 2 8549 10600	Spring, Play Rod	2
MC51	141 2 8549 10800	Spring, Sensor	2
MC52	141 2 8519 25400	Spring, Click	2
MC53	141 2 8529 05600	Spring, Record Stopper	1
MC54	141 2 8529 05400	Spring, Rod	2
MC55	141 2 8529 05401	Spring, Pause Rod	2
MC56	141 2 4539 09400	Washer	2
MC57	141 2 5519 36601	Capstan Gear	2
MC58	141 2 8519 98200	Spring, Flywheel	2
MC59	141 0 5219 07202	Flywheel Assy	2
MC60	141 2 5649 19700	Capstan Belt	2
MC61	141 2 4219 30100	Screw	6
MC62	141 2 4459 11800	Cushion, Motor	6
MC63	4 5279 71232	Motor [M1 & M2]	2
MC64	141 0 3519 20101	Support Flywheel Assy	2
MC65	4 2379 70650	Ring Terminal	2
MC66	141 2 4729 00200	Lug	1
MC67	141 2 8529 07200	Spring, Ground	2
MC68	4 2649 70349	Solenoid [SL1]	1
MC69	141 2 3769 12100	Spacer, Solenoid	1
MC70	141 2 4539 15800	Washer	2
MC71	141 2 4539 12100	Spindle Washer	4
MC72	141 2 5519 36701	Idler Pulley Gear	2
MC73	141 0 7439 10400	Idler Arm Assy	2
MC74	141 2 8259 09100	Roller	2
MC75	141 0 7439 09200	Take-up Arm Assy	2
MC76	141 2 8519 33000	Spring, Index Lock Lever	2
MC77	141 2 5519 36500	Take-up Gear	2
MC78	141 2 1659 13100	F.FWD Button	2
MC79	141 2 7319 49700	F.FWD Rod	2
MC80	141 2 1659 13400	Rewind Button	2
MC81	141 2 7319 49800	Rewind Rod	2
MC82	141 2 1659 13300	Play Button	2
MC83	141 2 7319 49900	Play Rod	2
MC84	141 2 1659 13200	Record Button	1
MC85	141 2 7319 50000	Record Rod	1
MC86	4 2319 72570	Leaf Switch (Play, Tape A) [S13]	1
MC86	4 2319 72570	Leaf Switch (Play, Tape B) [S14]	1
MC87	4 2319 74990	Leaf Switch (F.FWD/REW) [S15]	1
MC88	141 2 8429 06100	Record Switch Lever	1
MC89	141 2 8519 78000	Spring, Stop	1
MC90	141 2 7439 26200	Record Stopper Lever	1
MC91	141 2 4459 31300	Cushion	2
MZ1	101 3 1302 00411	Screw, Pan Hd. +M2.0x4	1
MZ2	101 3 1302 00811	Screw, Pan Hd. +M2.0x8	1
MZ3	101 3 1302 01211	Screw, Pan Hd. +M2.0x12	1
MZ4	101 3 2502 00611	Screw, Cylinder Hd. -M2.0x6	2
MZ5	101 3 1702 00411	Screw, Bind Hd. +M2.0x4	1
MZ6	101 3 1702 00611	Screw, Bind Hd. +M2.0x6	2
MZ7	101 3 1702 00811	Screw, Bind Hd. +M2.0x8	2
MZ8	102 3 1302 00611	Screw, Pan Hd. Tapping-1 +M2.0x6	2
MZ9	103 3 1302 00811	Screw, Pan Hd. Tapping-2 +M2.0x8	5
MZ10	143 3 1702 60811	Screw, Bind Hd. Tapping-B +M2.6x8	8
MZ11	112 3 1301 20082	E Ring M1.2	1
MZ12	112 3 1302 00082	E Ring M2.0	2
MZ13	112 3 1304 00082	E Ring M4.0	2
MZ14	112 3 1706 30040	Grip Ring M6.3	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

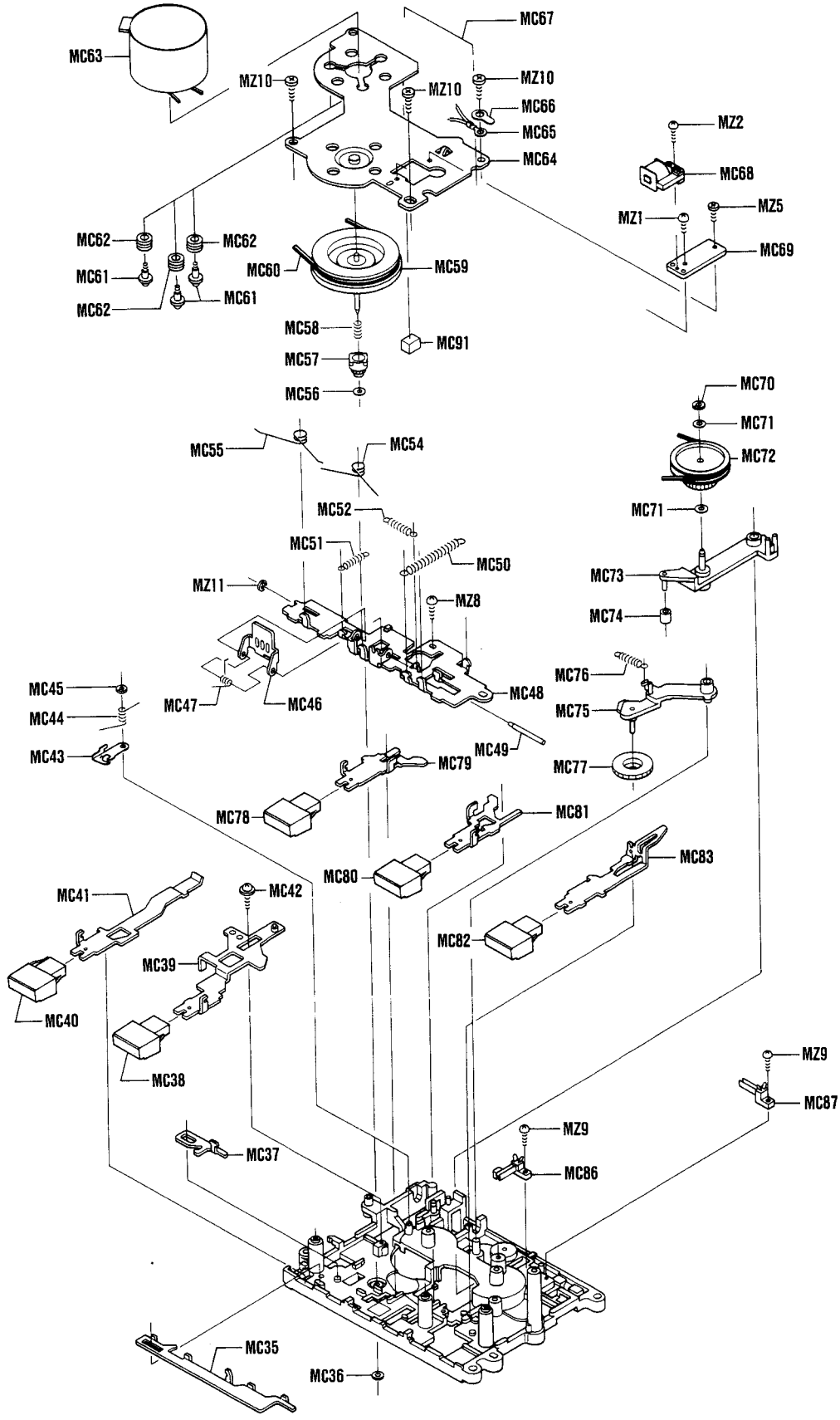
MECHANISM EXPLODED VIEW

(Tape A Side Chassis Top)



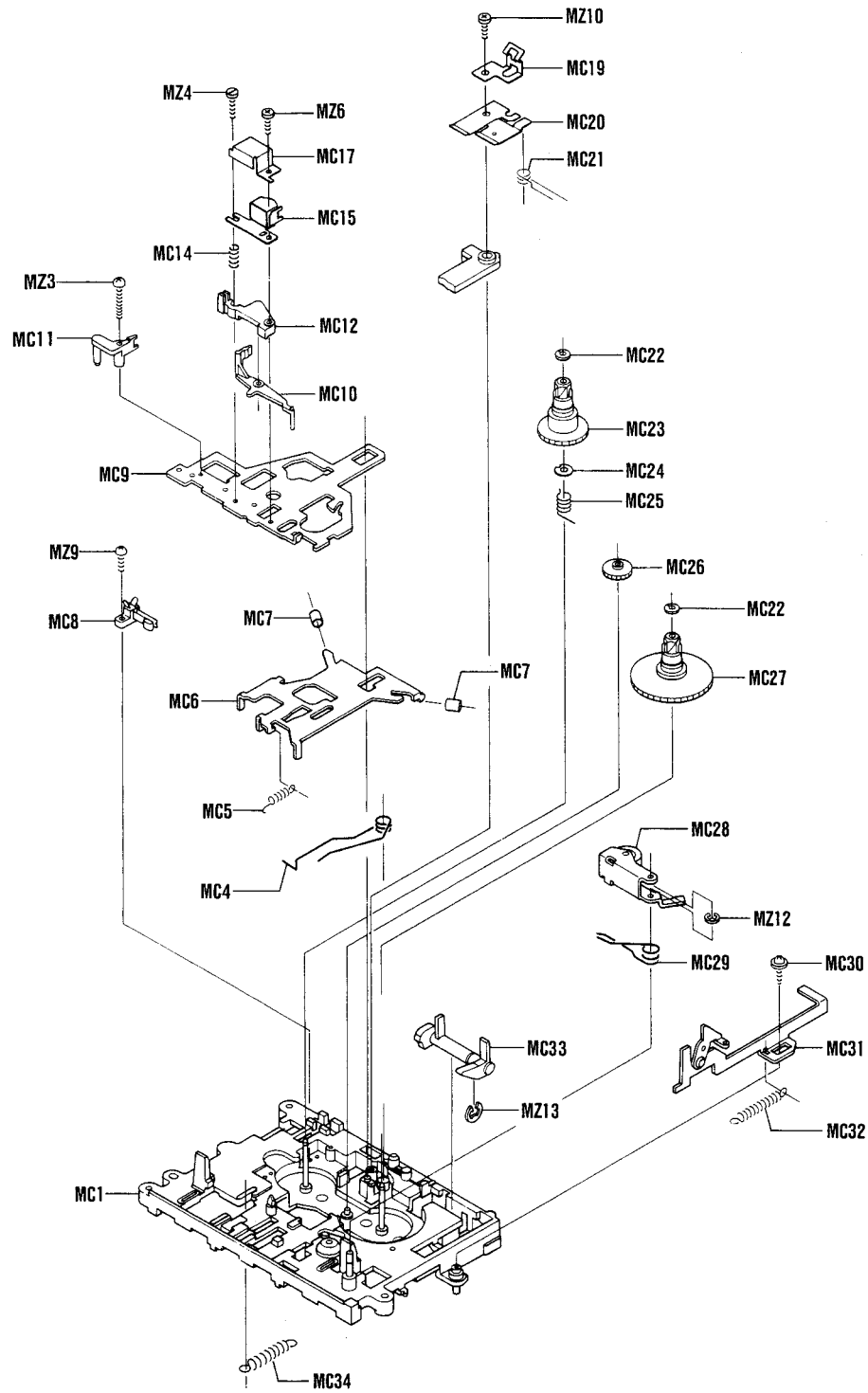
MECHANISM EXPLODED VIEW (Continued)

(Tape A Side Chassis Bottm)



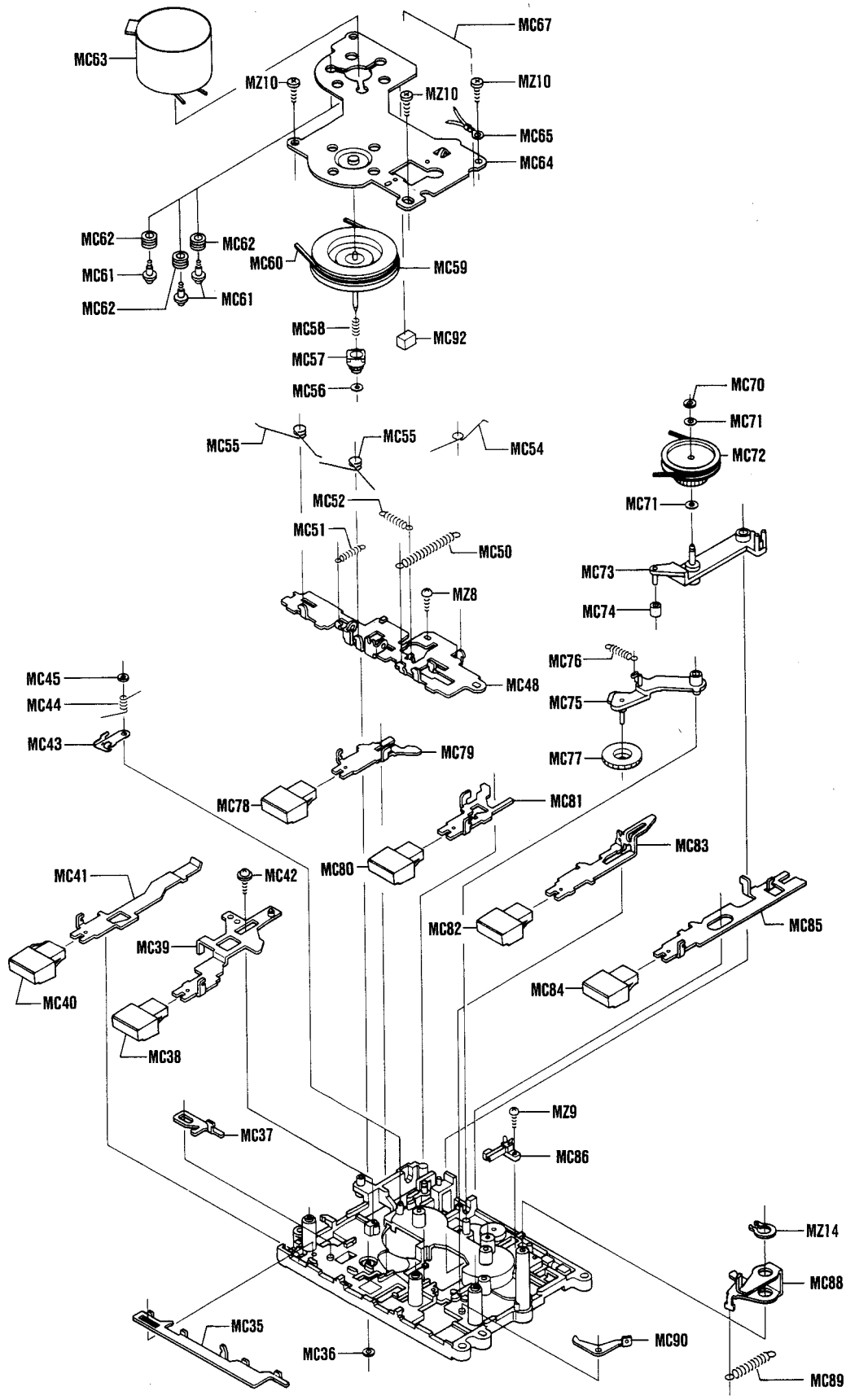
MECHANISM EXPLODED VIEW (Continued)

(Tape B Side Chassis Top)



MECHANISM EXPLODED VIEW (Continued)

(Tape B Side Chassis Bottom)



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	AMPLIFIER P.C.B. ASSY		
PCB1	4 1329 78782	Amplifier P.C.B. Assy	1
	4 2439 71572	Flat Wire 5	1
	102 3 1302 61011	Screw, Pan Hd. Tapping-1 +M2.6x10	2
	141 2 3689 10000	Radiator IC (for IC304)	1
	141 2 4729 04700	Staple, 10mm	57
	141 2 4729 05300	Wire Band	2
	4 1329 78810	Volume Control P.C.B. Assy **[See PCB3]**	1
	4 1329 78791	Jack P.C.B. Assy **[See PCB4]**	1
CN1	4 2369 73370	Connector 4P	1
CN2	4 2369 73370	Connector 4P	1
CN3	4 2369 73400	Connector 10P	1
CN4	4 2359 75902	Connector 4P Assy	1
CN5	4 2369 73780	GT Pin 1P	1
CN6	4 2369 73780	GT Pin 1P	1
S1	4 2319 73904	Slide Switch (Record/Play)	1
S2	4 2319 75713	Push Switch (Rec. Mute)	1
S3	4 2319 75900	Push Switch (Tape Operation)	1
S4	4 2319 75880	Slide Switch (Tape Select, Tape B)	1
S5	4 2319 75890	Slide Switch (Tape Select, Tape A)	1
S6	4 2319 75830	Lever Switch (Function)	1
S7	4 2319 75870	Lever Switch (Mode)	1
J1	4 2359 71780	Jack 1P (Mike, Left)	1
J2	4 2359 73470	1P Jack (Mike, Right)	1
J3	4 2359 75701	Jack 5P With Switch (Headphones 1)	1
J4	4 2359 75800	Jack 5P (Ext. Speaker/Headphones 2)	1
J6	4 2359 71781	1P Jack (Mike Mixing)	1
L101	4 2729 70480	Coil (33mH)	1
L102	4 2729 70250	Coil (3.3mH)	1
L201	4 2729 70480	Coil (33mH)	1
L202	4 2729 70250	Coil (3.3mH)	1
L302	4 2539 70301	Micro Inductor (100μH)	1
T302	4 2589 72220	OSC Trans	1
VR2	4 2229 74030	Rotary Volume (Mike Mixing, B-20kΩ)	1
Q101	203 5 5083 33160	Transistor, 2SC3331	1
Q102	203 5 5000 53664	Transistor, 2SC 536	1
Q201	203 5 5083 33160	Transistor, 2SC3331	1
Q202	203 5 5000 53664	Transistor, 2SC 536	1
Q301	203 5 5000 53654	Transistor, 2SC 536	1
Q302	203 5 5000 53654	Transistor, 2SC 536	1
Q303	203 5 5000 53654	Transistor, 2SC 536	1
Q304	203 5 5000 53664	Transistor, 2SC 536	1
Q305	203 5 5000 53664	Transistor, 2SC 536	1
Q306	203 5 5000 53654	Transistor, 2SC 536	1
Q307	203 5 7200 60850	Transistor, 2SA 608	1
Q308	203 5 5000 53654	Transistor, 2SC 536	1
Q309	203 5 4580 69850	Transistor, 2SB698	1
Q310	203 5 4580 69860	Transistor, 2SB 698	1
Q311	203 5 6900 40050	Transistor, 2SD400	1
Q312	203 5 5000 53654	Transistor, 2SC 536	1
Q313	203 5 5000 53664	Transistor, 2SC 536	1
Q314	203 5 5083 33165	Transistor, 2SC 3331	1
Q315	203 5 5083 33165	Transistor, 2SC 3331	1
D101	4 2029 71440	Diode, 1SS95	1
D102	4 2029 71440	Diode, 1SS95	1
D103	4 2029 71440	Diode, 1SS95	1
D201	4 2029 71440	Diode, 1SS95	1
D202	4 2029 71440	Diode, 1SS95	1
D203	4 2029 71440	Diode, 1SS95	1
D301	202 5 9110 18820	Diode, 1S 188	1
D304	205 5 9040 44210	Diode, DS 442	1
D305	202 5 3200 02411	Diode, GZA 2.4	1
D306	202 5 9600 44610	Diode, DS 446	1
D307	202 5 3200 02411	Diode, GZA 2.4	1
D308	4 2029 72212	Diode, MTZ6.8	1
D311	4 2029 71440	Diode, 1SS95	1
IC301	206 5 0793 16020	IC, LA 3160	1
IC302	206 5 0793 16020	IC, LA 3160	1
IC303	4 2069 71710	IC, M51544	1
IC304	206 5 3274 50010	IC, LA4500	1
IC305	206 5 9417 51010	IC, LC7510	1
C101	CD1 0 4500 0002V	Electrolytic 0.1μF 50V	1
C102	CC4 7 2500 KE00C	Ceramic 0.0047μF 50V ±10%	1
C103	CC2 2 1500 JD00C	Ceramic 220pF 50V ±5%	1
C104	CD1 0 5500 0000V	Electrolytic 1μF 50V	1
C105	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
C106	CM2 7 3500 K00SV	Mylar 0.027μF 50V ±10%	1
C107	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
C108	CC8 2 1500 KE00C	Ceramic 820pF 50V ±10%	1
C109	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
C110	CD1 0 5500 0000V	Electrolytic 1μF 50V	1
C111	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
C112	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
C113	CM2 7 3500 K00SV	Mylar 0.027μF 50V ±10%	1
C114	CC8 2 1500 KE00C	Ceramic 820pF 50V ±10%	1
C115	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
C116	CD4 7 5250 0000V	Electrolytic 4.7μF 25V	1
C117	CC1 5 2500 KE00C	Ceramic 0.0015μF 50V ±10%	1
C118	CD1 0 6160 0000V	Electrolytic 10μF 16V	1
C119	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
C120	CC4 7 1500 KE00C	Ceramic 470pF 50V ±10%	1
C121	CD2 2 5500 0000V	Electrolytic 2.2μF 50V	1
C122	CD1 0 6160 0000V	Electrolytic 10μF 16V	1
C123	CC1 0 1500 KD00C	Ceramic 100pF 50V ±10%	1
C124	CD1 0 4500 0002V	Electrolytic 0.1μF 50V	1
C125	CD1 0 5500 0000V	Electrolytic 1μF 50V	1
C126	CM3 9 3500 K00SV	Mylar 0.039μF 50V ±10%	1
C127	CD1 0 5500 0000V	Electrolytic 1μF 50V	1
C128	CC2 2 2500 KE00C	Ceramic 0.0022μF 50V ±10%	1
C129	CC6 8 1500 KE00C	Ceramic 680pF 50V ±10%	1
C130	CI4 7 3250 KF00C	Boundary 0.047μF 25V ±10%	1
C134	CC1 0 2500 KE00C	Ceramic 0.001μF 50V ±10%	1
C135	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
C136	CI1 0 3250 KF00C	Boundary 0.01μF 25V ±10%	1
C137	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
C138	4 2239 70650	Capacitor 2200μF 10V	1
C139	CM1 5 4500 K00SV	Mylar 0.15μF 50V ±10%	1
C140	CC3 3 1500 KE00C	Ceramic 330pF 50V ±10%	1
C141	CC3 3 0500 KD00C	Ceramic 33pF 50V ±10%	1
C142	CC3 3 2500 KE00C	Ceramic 0.0033μF 50V ±10%	1
C143	CC1 0 2500 KE00C	Ceramic 0.001μF 50V ±10%	1
C201	CD1 0 4500 0002V	Electrolytic 0.1μF 50V	1
C202	CC4 7 2500 KE00C	Ceramic 0.0047μF 50V ±10%	1
C203	CC2 2 1500 JD00C	Ceramic 220pF 50V ±5%	1
C204	CD1 0 5500 0000V	Electrolytic 1μF 50V	1
C205	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
C206	CM2 7 3500 K00SV	Mylar 0.027μF 50V ±10%	1
C207	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
C208	CC8 2 1500 KE00C	Ceramic 820pF 50V ±10%	1
C209	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
C210	CD1 0 5500 0000V	Electrolytic 1μF 50V	1
C211	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
C212	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
C213	CM2 7 3500 K00SV	Mylar 0.027μF 50V ±10%	1
C214	CC8 2 1500 KE00C	Ceramic 820pF 50V ±10%	1
C215	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
C216	CD4 7 5250 0000V	Electrolytic 4.7μF 25V	1
C217	CC1 5 2500 KE00C	Ceramic 0.0015μF 50V ±10%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description			Q'ty
C218	CD1 0 6160 0000V	Electrolytic	10μF	16V	1
C219	CC3 9 1500 KE00C	Ceramic	390pF	50V ±10%	1
C220	CC4 7 1500 KE00C	Ceramic	470pF	50V ±10%	1
C221	CD2 2 5500 0000V	Electrolytic	2.2μF	50V	1
C222	CD1 0 6160 0000V	Electrolytic	10μF	16V	1
C223	CC1 0 1500 KD00C	Ceramic	100pF	50V ±10%	1
C224	CD1 0 4500 0002V	Electrolytic	0.1μF	50V	1
C225	CD1 0 5500 0000V	Electrolytic	1μF	50V	1
C226	CM3 9 3500 K00SV	Mylar	0.039μF	50V ±10%	1
C227	CD1 0 5500 0000V	Electrolytic	1μF	50V	1
C228	CC2 2 2500 KE00C	Ceramic	0.0022μF	50V ±10%	1
C229	CC6 8 1500 KE00C	Ceramic	680pF	50V ±10%	1
C230	CI4 7 3250 KF00C	Boundary	0.047μF	25V ±10%	1
C234	CC1 0 2500 KE00C	Ceramic	0.001μF	50V ±10%	1
C235	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C236	CI1 0 3250 KF00C	Boundary	0.01μF	25V ±10%	1
C237	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C238	4 2239 70650	Capacitor	2200μF	10V	1
C239	CM1 5 4500 K00SV	Mylar	0.15μF	50V ±10%	1
C240	CC3 3 1500 KE00C	Ceramic	330pF	50V ±10%	1
C241	CC3 3 0500 KD00C	Ceramic	33pF	50V ±10%	1
C242	CC3 3 2500 KE00C	Ceramic	0.0033μF	50V ±10%	1
C243	CC1 0 2500 KE00C	Ceramic	0.001μF	50V ±10%	1
C301	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C302	CD3 3 7100 0001V	Electrolytic	330μF	10V	1
C303	CD3 3 7100 0001V	Electrolytic	330μF	10V	1
C304	CD3 3 7100 0001V	Electrolytic	330μF	10V	1
C305	CD3 3 7100 0003V	Electrolytic	330μF	10V	1
C306	CD1 0 7100 0001V	Electrolytic	100μF	10V	1
C307	CD4 7 4500 0000V	Electrolytic	0.47μF	50V	1
C308	CC4 7 1500 KE00C	Ceramic	470pF	50V ±10%	1
C309	CD1 0 5500 0000V	Electrolytic	1μF	50V	1
C310	CD1 0 6160 0000V	Electrolytic	10μF	16V	1
C311	CD4 7 5250 0000V	Electrolytic	4.7μF	25V	1
C312	CD2 2 6100 0001V	Electrolytic	22μF	10V	1
C313	CD3 3 7100 0001V	Electrolytic	330μF	10V	1
C314	CD2 2 7100 0001V	Electrolytic	220μF	10V	1
C315	CD1 0 7160 0001V	Electrolytic	100μF	16V	1
C316	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C317	CD1 0 8160 0001V	Electrolytic	1000μF	16V	1
C318	CD1 0 5500 0000V	Electrolytic	1μF	50V	1
C319	CD1 0 5500 0000V	Electrolytic	1μF	50V	1
C320	CD1 0 6160 0000V	Electrolytic	10μF	16V	1
C321	CD1 0 7100 0001V	Electrolytic	100μF	10V	1
C322	CD4 7 4500 0000V	Electrolytic	0.47μF	50V	1
C323	CC1 0 1500 KD00C	Ceramic	100pF	50V ±10%	1
C324	CI6 8 2250 KF00C	Boundary	0.0068μF	25V ±10%	1
C325	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C326	CI6 8 2250 KF00C	Boundary	0.0068μF	25V ±10%	1
C327	CD1 0 5500 0000V	Electrolytic	1μF	50V	1
C328	CI1 0 3250 KF00C	Boundary	0.01μF	25V ±10%	1
C329	CD1 0 5500 0000V	Electrolytic	1μF	50V	1
C330	CD1 0 5500 0000V	Electrolytic	1μF	50V	1
C333	CM6 8 2500 K00SV	Mylar	0.0068μF	50V ±10%	1
C334	CP6 8 2101 J00V	Polypropylen	0.0068μF	100V ±5%	1
C335	CM2 2 3500 K00SV	Mylar	0.022μF	50V ±10%	1
C336	CM3 3 2500 K00SV	Mylar	0.0033μF	50V ±10%	1
C337	CM3 3 2500 K00SV	Mylar	0.0033μF	50V ±10%	1
C338	CD1 0 6160 0000V	Electrolytic	10μF	16V	1
C339	CD4 7 7100 0001V	Electrolytic	470μF	10V	1
C340	CD2 2 7100 0001V	Electrolytic	220μF	10V	1
C341	CC1 0 1500 KD00C	Ceramic	100pF	50V ±10%	1
C342	CC1 0 1500 KD00C	Ceramic	100pF	50V ±10%	1
C343	CD1 0 7100 0001V	Electrolytic	100μF	10V	1
C344	CD2 2 5500 0000V	Electrolytic	2.2μF	50V	1
C345	CD1 0 6160 0000V	Electrolytic	10μF	16V	1
C346	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
R101	RP1 5 2121 JH000	Pretty Carbon	1.5kΩ	1/8W ±5%	1
R102	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R103	RP1 0 0121 JH000	Pretty Carbon	10Ω	1/8W ±5%	1
R104	RP3 3 2121 JH000	Pretty Carbon	3.3kΩ	1/8W ±5%	1
R105	RP6 8 0121 JH000	Pretty Carbon	68Ω	1/8W ±5%	1
R106	RP1 8 2121 JH000	Pretty Carbon	1.8kΩ	1/8W ±5%	1
R107	RP2 7 2121 JH000	Pretty Carbon	2.7kΩ	1/8W ±5%	1
R108	RP1 5 2121 JH000	Pretty Carbon	1.5kΩ	1/8W ±5%	1
R109	RP1 0 4121 JH000	Pretty Carbon	100kΩ	1/8W ±5%	1
R110	RP6 8 0121 JH000	Pretty Carbon	68Ω	1/8W ±5%	1
R111	RP1 8 2121 JH000	Pretty Carbon	1.8kΩ	1/8W ±5%	1
R112	RP2 7 2121 JH000	Pretty Carbon	2.7kΩ	1/8W ±5%	1
R113	RP1 0 4121 JH000	Pretty Carbon	100kΩ	1/8W ±5%	1
R114	RP5 6 2121 JH000	Pretty Carbon	5.6kΩ	1/8W ±5%	1
R115	RD4 7 2251 JS000	Carbon	4.7kΩ	1/4W ±5%	1
R116	RP6 8 1121 JH000	Pretty Carbon	680Ω	1/8W ±5%	1
R117	RP2 7 2121 JH000	Pretty Carbon	2.7kΩ	1/8W ±5%	1
R118	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R119	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R120	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R121	RP6 8 2121 JH000	Pretty Carbon	6.8kΩ	1/8W ±5%	1
R122	RP1 0 3121 JH000	Pretty Carbon	10kΩ	1/8W ±5%	1
R123	RD4 7 2251 JS000	Carbon	4.7kΩ	1/4W ±5%	1
R124	RP4 7 3121 JH000	Pretty Carbon	47kΩ	1/8W ±5%	1
R125	RP1 8 2121 JH000	Pretty Carbon	1.8kΩ	1/8W ±5%	1
R126	RD3 9 2251 JS000	Carbon	3.9kΩ	1/4W ±5%	1
R127	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R128	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R129	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R130	RP2 2 3121 JH000	Pretty Carbon	22kΩ	1/8W ±5%	1
R131	RP8 2 2121 JH000	Pretty Carbon	8.2kΩ	1/8W ±5%	1
R132	RP1 8 1121 JH000	Pretty Carbon	180Ω	1/8W ±5%	1
R133	RP1 5 4121 JH000	Pretty Carbon	150kΩ	1/8W ±5%	1
R134	RP7 5 1121 JH000	Pretty Carbon	750Ω	1/8W ±5%	1
R135	RP1 0 2121 JH000	Pretty Carbon	1kΩ	1/8W ±5%	1
R136	RP2 2 2121 JH000	Pretty Carbon	2.2kΩ	1/8W ±5%	1
R137	RP3 3 3121 JH000	Pretty Carbon	33kΩ	1/8W ±5%	1
R139	RP3 3 3121 JH000	Pretty Carbon	33kΩ	1/8W ±5%	1
R140	RD2 2 2251 JS000	Carbon	2.2kΩ	1/4W ±5%	1
R141	RP1 2 1121 JH000	Pretty Carbon	120Ω	1/8W ±5%	1
R142	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R143	RP3 0 3121 JH000	Pretty Carbon	30kΩ	1/8W ±5%	1
R144	RH4 7 0501 JH000	Metal	47Ω	1/2W ±5%	1
R145	RP3 3 3121 JH000	Pretty Carbon	33kΩ	1/8W ±5%	1
R146	RP1 0 4121 JH000	Pretty Carbon	100kΩ	1/8W ±5%	1
R147	RP1 0 3121 JH000	Pretty Carbon	10kΩ	1/8W ±5%	1
R148	RP1 5 3121 JH000	Pretty Carbon	15kΩ	1/8W ±5%	1
R201	RP1 5 2121 JH000	Pretty Carbon	1.5kΩ	1/8W ±5%	1
R202	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R203	RP1 0 0121 JH000	Pretty Carbon	10Ω	1/8W ±5%	1
R204	RP3 3 2121 JH000	Pretty Carbon	3.3kΩ	1/8W ±5%	1
R205	RP6 8 0121 JH000	Pretty Carbon	68Ω	1/8W ±5%	1
R206	RP1 8 2121 JH000	Pretty Carbon	1.8kΩ	1/8W ±5%	1
R207	RP2 7 2121 JH000	Pretty Carbon	2.7kΩ	1/8W ±5%	1
R208	RP1 5 2121 JH000	Pretty Carbon	1.5kΩ	1/8W ±5%	1
R209	RP1 0 4121 JH000	Pretty Carbon	100kΩ	1/8W ±5%	1
R210	RP6 8 0121 JH000	Pretty Carbon	68Ω	1/8W ±5%	1
R211	RP1 8 2121 JH000	Pretty Carbon	1.8kΩ	1/8W ±5%	1
R212	RD2 7 2251 JS000	Carbon	2.7kΩ	1/4W ±5%	1
R213	RP1 0 4121 JH000	Pretty Carbon	100kΩ	1/8W ±5%	1
R214	RP5 6 2121 JH000	Pretty Carbon	5.6kΩ	1/8W ±5%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description			Q'ty
R215	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R216	RD6 8 1251 JS000	Carbon	680Ω	1/4W ±5%	1
R217	RD2 7 2251 JS000	Carbon	2.7kΩ	1/4W ±5%	1
R218	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R219	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R220	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R221	RP6 8 2121 JH000	Pretty Carbon	6.8kΩ	1/8W ±5%	1
R222	RP1 0 3121 JH000	Pretty Carbon	10kΩ	1/8W ±5%	1
R223	RD4 7 2251 JS000	Carbon	4.7kΩ	1/4W ±5%	1
R224	RP4 7 3121 JH000	Pretty Carbon	47kΩ	1/8W ±5%	1
R225	RP1 8 2121 JH000	Pretty Carbon	1.8kΩ	1/8W ±5%	1
R226	RD3 9 2251 JS000	Carbon	3.9kΩ	1/4W ±5%	1
R227	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R228	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R229	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R230	RP2 2 3121 JH000	Pretty Carbon	22kΩ	1/8W ±5%	1
R231	RP8 2 2121 JH000	Pretty Carbon	8.2kΩ	1/8W ±5%	1
R232	RP1 8 1121 JH000	Pretty Carbon	180Ω	1/8W ±5%	1
R233	RP1 5 4121 JH000	Pretty Carbon	150kΩ	1/8W ±5%	1
R234	RP7 5 1121 JH000	Pretty Carbon	750Ω	1/8W ±5%	1
R235	RP1 0 2121 JH000	Pretty Carbon	1kΩ	1/8W ±5%	1
R236	RP2 2 2121 JH000	Pretty Carbon	2.2kΩ	1/8W ±5%	1
R237	RP3 3 3121 JH000	Pretty Carbon	33kΩ	1/8W ±5%	1
R239	RD3 3 3251 JS000	Carbon	33kΩ	1/4W ±5%	1
R240	RP2 2 2121 JH000	Pretty Carbon	2.2kΩ	1/8W ±5%	1
R241	RP1 2 1121 JH000	Pretty Carbon	120Ω	1/8W ±5%	1
R242	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R243	RP3 0 3121 JH000	Pretty Carbon	30kΩ	1/8W ±5%	1
R244	RH4 7 0501 JH000	Metal	47Ω	1/2W ±5%	1
R245	RP3 3 3121 JH000	Pretty Carbon	33kΩ	1/8W ±5%	1
R246	RP1 0 4121 JH000	Pretty Carbon	100kΩ	1/8W ±5%	1
R247	RP1 0 3121 JH000	Pretty Carbon	10kΩ	1/8W ±5%	1
R248	RP1 5 3121 JH000	Pretty Carbon	15kΩ	1/8W ±5%	1
R301	RP6 8 2121 JH000	Pretty Carbon	6.8kΩ	1/8W ±5%	1
R302	RP2 2 2121 JH000	Pretty Carbon	2.2kΩ	1/8W ±5%	1
R303	RP3 3 1121 JH000	Pretty Carbon	330Ω	1/8W ±5%	1
R304	RD3 3 1251 JS000	Carbon	330Ω	1/4W ±5%	1
R305	RD6 8 0251 JS000	Carbon	68Ω	1/4W ±5%	1
R306	RP2 2 1121 JH000	Pretty Carbon	220Ω	1/8W ±5%	1
R307	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R308	RP3 3 3121 JH000	Pretty Carbon	33kΩ	1/8W ±5%	1
R309	RP1 0 1121 JH000	Pretty Carbon	100Ω	1/8W ±5%	1
R310	RP1 5 3121 JH000	Pretty Carbon	15kΩ	1/8W ±5%	1
R311	RP1 5 3121 JH000	Pretty Carbon	15kΩ	1/8W ±5%	1
R312	RD4 7 3251 JS000	Carbon	47kΩ	1/4W ±5%	1
R313	RD3 3 2251 JS000	Carbon	3.3kΩ	1/4W ±5%	1
R314	RP4 7 4121 JH000	Pretty Carbon	470kΩ	1/8W ±5%	1
R315	RD1 0 0251 JS000	Carbon	10Ω	1/4W ±5%	1
R316	RD1 0 1251 JS000	Carbon	100Ω	1/4W ±5%	1
R317	RP2 2 2121 JH000	Pretty Carbon	2.2kΩ	1/8W ±5%	1
R318	RP2 7 4121 JH000	Pretty Carbon	270kΩ	1/8W ±5%	1
R319	RP1 0 0121 JH000	Pretty Carbon	10Ω	1/8W ±5%	1
R320	RD5 6 2251 JS000	Carbon	5.6kΩ	1/4W ±5%	1
R321	RD1 0 2251 JS000	Carbon	1kΩ	1/4W ±5%	1
R322	RP2 2 1121 JH000	Pretty Carbon	220Ω	1/8W ±5%	1
R323	RD3 3 5251 JS000	Carbon	3.3MΩ	1/4W ±5%	1
R324	RD1 5 3251 JS000	Carbon	15kΩ	1/4W ±5%	1
R326	RP5 6 3121 JH000	Pretty Carbon	56kΩ	1/8W ±5%	1
R327	RP1 5 4121 JH000	Pretty Carbon	150kΩ	1/8W ±5%	1
R328	RP3 3 2121 JH000	Pretty Carbon	3.3kΩ	1/8W ±5%	1
R329	RP1 8 4121 JH000	Pretty Carbon	180kΩ	1/8W ±5%	1
R330	RP2 2 2121 JH000	Pretty Carbon	2.2kΩ	1/8W ±5%	1
R331	RP1 5 4121 JH000	Pretty Carbon	150kΩ	1/8W ±5%	1
R332	RP1 2 4121 JH000	Pretty Carbon	120kΩ	1/8W ±5%	1
R333	RP3 3 3121 JH000	Pretty Carbon	33kΩ	1/8W ±5%	1
R334	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R335	RP2 2 3121 JH000	Pretty Carbon	22kΩ	1/8W ±5%	1
R336	RP3 3 3121 JH000	Pretty Carbon	33kΩ	1/8W ±5%	1
R337	RP1 8 2121 JH000	Pretty Carbon	1.8kΩ	1/8W ±5%	1
R338	RP6 8 1121 JH000	Pretty Carbon	680Ω	1/8W ±5%	1
R339	RP1 0 4121 JH000	Pretty Carbon	100kΩ	1/8W ±5%	1
R340	RP1 8 2121 JH000	Pretty Carbon	1.8kΩ	1/8W ±5%	1
R341	RP1 0 4121 JH000	Pretty Carbon	100kΩ	1/8W ±5%	1
R342	RP1 5 2121 JH000	Pretty Carbon	1.5kΩ	1/8W ±5%	1
R343	RP5 6 A121 JH000	Pretty Carbon	5.6Ω	1/8W ±5%	1
R344	RP3 3 1121 JH000	Pretty Carbon	330Ω	1/8W ±5%	1
R345	RP2 7 4121 JH000	Pretty Carbon	270kΩ	1/8W ±5%	1
R346	RP2 2 2121 JH000	Pretty Carbon	2.2kΩ	1/8W ±5%	1
R347	RP6 8 0121 JH000	Pretty Carbon	68Ω	1/8W ±5%	1
R348	RD3 6 2251 JS000	Carbon	3.6kΩ	1/4W ±5%	1
R349	RD3 3 1251 JS000	Carbon	330Ω	1/4W ±5%	1
R350	RP4 7 2121 JH000	Pretty Carbon	4.7kΩ	1/8W ±5%	1
R351	RP6 8 1121 JH000	Pretty Carbon	680Ω	1/8W ±5%	1
R352	RP3 3 0121 JH000	Pretty Carbon	33Ω	1/8W ±5%	1
R353	RP2 2 3121 JH000	Pretty Carbon	22kΩ	1/8W ±5%	1
R354	RP2 2 3121 JH000	Pretty Carbon	22kΩ	1/8W ±5%	1
R355	RP4 7 A121 JH000	Pretty Carbon	4.7Ω	1/8W ±5%	1
R356	RD4 7 0251 JS000	Carbon	47Ω	1/4W ±5%	1
R357	RD1 0 1251 JS000	Carbon	100Ω	1/4W ±5%	1
R358	RP1 0 3121 JH000	Pretty Carbon	10kΩ	1/8W ±5%	1
R359	RP1 5 4121 JH000	Pretty Carbon	150kΩ	1/8W ±5%	1
R360	RP4 7 A121 JH000	Pretty Carbon	4.7Ω	1/8W ±5%	1

RADIO TUNER P.C.B. ASSY

PCB2	4 1259 71931	Radio Tuner P.C.B. Assy	1
	4 2369 70740	RT Pin	3
	141 2 3229 35701	Shield Plate IC	1
	141 2 4729 04700	Staple, 10mm	7
	141 2 4729 05000	Staple, 5mm	6
CN4	4 2369 73370	Connector 4P	1
CN7	4 2369 73790	Connector 2P	1
S9	4 2319 75800	Slide Switch (Band Select)	1
L1	4 2599 70810	RF Coil	1
L2	4 2589 71952	OSC Trans FM	1
L3	4 2539 71350	Choke Coil	1
L4	4 2579 71490	Bar Antenna	1
L5	4 2539 71020	Band Pass Filter	1
T1	4 2569 70301	IFT	1
T2	4 2569 71350	IFT AM	1
T3	4 2569 71340	IFT FM	1
T4	4 2579 70722	Antenna Coil	1
T5	4 2589 71423	OSC Trans, SW	1
T6	4 2589 71413	OSC Trans, MW	1
T7	4 2589 71400	OSC Trans	1
P1	4 2229 73620	Potentiometer (B-10kΩ)	1
CF1	4 2539 70184	Ceramic Filter	1
CF2	4 2539 70184	Ceramic Filter	1
CF3	4 2539 70682	Mechanical Filter	1
PVC1	4 2249 70790	Variable Condenser	1
IC1	4 2069 71842	IC, BA 4404	1
IC2	4 2069 71530	IC, AN 7223	1
IC3	206 5 0483 36161	IC, LA 3361	1
Q1	4 2039 71200	Transistor, 2SC 2063	1
Q2	4 2039 71200	Transistor, 2SC 2063	1
D1	4 2029 71440	Diode, 1SS 95	1
D2	4 2029 71440	Diode, 1SS 95	1
D3	4 2029 71440	Diode, 1SS 95	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description			Q'ty
TC1	4 2249 70580	Trimmer Condenser			1
TC2	4 2249 70590	Trimmer Condenser			1
TC3	4 2249 70580	Trimmer Condenser			1
TC4	4 2249 70580	Trimmer Condenser			1
TC5	4 2249 70590	Trimmer Condenser			1
C1	CC1 0 0500 JD00R	Ceramic	10pF	50V ±5%	1
C2	CC2 0 A500 CD00C	Ceramic	2pF	50V ±0.2pF	1
C3	CC1 0 0500 JD00C	Ceramic	10pF	50V ±5%	1
C4	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C5	CC1 0 2500 KE00R	Ceramic	0.001μF	50V ±10%	1
C6	CC2 0 0500 JD00C	Ceramic	20pF	50V ±5%	1
C7	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C8	CC1 3 0500 JCH0C	Ceramic	13pF	50V ±5%	1
C9	CC8 0 A500 DCH0C	Ceramic	8pF	50V ±0.5pF	1
C10	CC3 0 A500 CCH0C	Ceramic	3pF	50V ±0.2pF	1
C11	CC2 4 0500 JCH0C	Ceramic	24pF	50V ±5%	1
C12	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C13	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C14	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C15	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C16	CD1 0 7100 0001V	Electrolytic	100μF	10V	1
C17	CB1 0 6100 0000V	None-polar	10μF	10V	1
C18	CD4 7 5100 0000V	Electrolytic	4.7μF	10V	1
C19	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C20	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C21	CD2 2 6100 0000V	Electrolytic	22μF	10V	1
C22	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C23	CD1 0 6100 0000V	Electrolytic	10μF	10V	1
C24	CD1 0 6100 0000V	Electrolytic	10μF	10V	1
C25	CD1 0 5100 0000V	Electrolytic	1μF	10V	1
C26	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C27	CD1 0 7100 0001V	Electrolytic	100μF	10V	1
C28	CC2 2 0500 JD00R	Ceramic	22pF	50V ±5%	1
C29	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C30	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C31	CC1 2 0500 JD00C	Ceramic	12pF	50V ±5%	1
C32	CC1 0 0500 JD00C	Ceramic	10pF	50V ±5%	1
C33	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C34	CP3 1 2101 J002V	Polypropylen	0.0031μF	100V ±5%	1
C35	CC1 0 0500 JD00C	Ceramic	10pF	50V ±5%	1
C36	CC1 0 0500 JD00C	Ceramic	10pF	50V ±5%	1
C37	CP3 6 1101 J002V	Polypropylen	360pF	100V ±5%	1
C38	CC1 8 0500 JD00C	Ceramic	18pF	50V ±5%	1
C39	CC2 2 0500 JD00C	Ceramic	22pF	50V ±5%	1
C40	CC3 0 A500 CD00C	Ceramic	3pF	50V ±0.2pF	1
C41	CP2 0 1101 J002V	Polypropylen	200pF	100V ±5%	1
C42	CC1 0 1500 JD00C	Ceramic	100pF	50V ±5%	1
C43	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C44	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C45	CD4 7 7100 0001V	Electrolytic	470μF	10V	1
C46	CM1 2 2500 K00SV	Mylar	0.0012μF	50V ±10%	1
C47	CM4 7 3500 K00SV	Mylar	0.047μF	50V ±10%	1
C48	CS1 0 2500 J000V	Polystyroul	0.001μF	50V ±5%	1
C49	CD1 0 5100 0000V	Electrolytic	1μF	10V	1
C50	CD4 7 4100 0000V	Electrolytic	0.47μF	10V	1
C51	CD1 0 5100 0000V	Electrolytic	1μF	10V	1
C52	CI1 0 3250 KE00C	Boundary	0.01μF	25V ±10%	1
C53	CI1 0 3250 KE00C	Boundary	0.01μF	25V ±10%	1
C54	CD1 0 4100 0000V	Electrolytic	0.1μF	10V	1
C55	CD1 0 4100 0000V	Electrolytic	0.1μF	10V	1
C56	CI1 5 3250 KE00C	Boundary	0.015μF	25V ±10%	1
C57	CI1 5 3250 KE00C	Boundary	0.015μF	25V ±10%	1
C58	CC1 0 2500 KE00C	Ceramic	0.001μF	50V ±10%	1
R1	RD1 0 0251 JM000	Carbon	10Ω	1/4W ±5%	1
R2	RP3 9 3121 JH000	Carbon	39kΩ	1/8W ±5%	1
R3	RP3 3 4121 JH000	Carbon	330kΩ	1/8W ±5%	1
R4	RP1 0 1121 JH000	Carbon	100Ω	1/8W ±5%	1
R5	RP3 3 1121 JH000	Carbon	330Ω	1/8W ±5%	1
R6	RP1 0 5121 JH000	Carbon	1MΩ	1/8W ±5%	1
R7	RP3 3 1121 JH000	Carbon	330Ω	1/8W ±5%	1
R8	RP2 7 1121 JH000	Carbon	270Ω	1/8W ±5%	1
R9	RD5 6 4251 JM000	Carbon	560kΩ	1/4W ±5%	1
R10	RP2 2 2121 JH000	Carbon	2.2kΩ	1/8W ±5%	1
R11	RD1 0 1251 JM000	Carbon	100Ω	1/4W ±5%	1
R12	RP5 6 4121 JH000	Carbon	560kΩ	1/8W ±5%	1
R13	RP1 0 2121 JH000	Carbon	1kΩ	1/8W ±5%	1
R14	RP3 3 2121 JH000	Carbon	3.3kΩ	1/8W ±5%	1
R15	RP5 6 0121 JH000	Carbon	56Ω	1/8W ±5%	1
R16	RP3 3 0121 JH000	Carbon	33Ω	1/8W ±5%	1
R17	RP6 8 2121 JH000	Carbon	6.8kΩ	1/8W ±5%	1
R18	RP1 0 2121 JH000	Carbon	1kΩ	1/8W ±5%	1
R19	RP3 3 2121 JH000	Carbon	3.3kΩ	1/8W ±5%	1
R20	RP3 3 2121 JH000	Carbon	3.3kΩ	1/8W ±5%	1
R21	RP1 0 2121 JH000	Carbon	1kΩ	1/8W ±5%	1
R22	RD2 2 0251 JM000	Carbon	22Ω	1/4W ±5%	1
R23	RP6 8 2121 JH000	Carbon	6.8kΩ	1/8W ±5%	1
R24	RP6 8 2121 JH000	Carbon	6.8kΩ	1/8W ±5%	1
R25	RP6 8 1121 JH000	Carbon	680Ω	1/8W ±5%	1
R26	RP6 8 1121 JH000	Carbon	680Ω	1/8W ±5%	1
R27	RP5 6 1121 JH000	Carbon	560Ω	1/8W ±5%	1

VOLUME CONTROL P.C.B. ASSY

PCB3	4 1329 78810	Volume Control P.C.B. Assy			1
VR1	4 2229 74020	Rotary Volume Unit			1
C131	CI3 9 3250 KF00C	Boundary	0.039μF	25V ±10%	1
C132	CC3 3 2500 KE00C	Ceramic	0.0033μF	50V ±10%	1
C133	CI4 7 3250 KF00C	Boundary	0.047μF	25V ±10%	1
C231	CI3 9 3250 KF00C	Boundary	0.039μF	25V ±10%	1
C232	CC3 3 2500 KE00C	Ceramic	0.0033μF	50V ±10%	1
C233	CI4 7 3250 KF00C	Boundary	0.047μF	25V ±10%	1
R138	RP3 9 2121 JH000	Pretty Carbon	3.9kΩ	1/8W ±5%	1
R238	RP3 9 2121 JH000	Pretty Carbon	3.9kΩ	1/8W ±5%	1

JACK P.C.B. ASSY

PCB4	4 1329 78791	Jack P.C.B. Assy			1
	4 2269 38440	PCB, Jack			1
S17	4 2319 75590	Slide Switch (Beat Cancel)			1
J7	4 2359 73602	2P Jack (LINE IN)			1
J8	4 2359 73602	2P Jack (LINE OUT)			1
C331	CM1 0 2500 J00SV	Mylar	0.001μF	50V ±5%	1
C332	CM3 9 2500 J00SV	Mylar	0.0039μF	50V ±5%	1

LED INDICATOR P.C.B. ASSY

PCB5	4 1329 78800	LED Indicator P.C.B. Assy			1
	4 2269 38450	PCB, LED			1
CN3	4 2359 75206	Connector 10P Assy			1
S10	4 2319 75560	Touch Switch (AMSS Program)			1
D309	4 2029 72310	LED, SLP-172B-03 (LED Indicator)			1
D310	4 2029 72320	LED, SLP-252B-03 (AMSS Program)			1
R325	RD2 2 1251 JS000	Carbon	220Ω	1/4W ±5%	1

P.C.BOARD PARTS LIST (Continued)

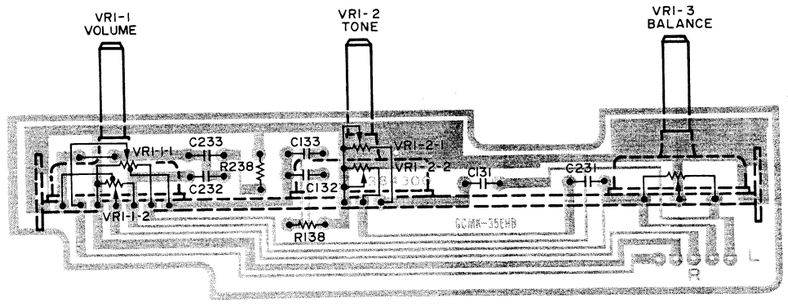
Ref. No.	Part No.	Description			Q'ty
	POWER SUPPLY P.C.B. ASSY				
PCB6	4 1919 71672	Power Supply P.C.B. Assy			1
	4 2359 70990	RT Pin Socket			2
	141 2 4729 04700	Staple, 10mm			2
	⚠ 4 2359 70910	Fuse Holder			2
J5	⚠ 4 2359 73682	AC/DC Power Socket			1
F301	⚠ 4 2349 70140	Fuse (T 1A)			1
D312	202 5 2320 13110	Diode, DS 131			1
D313	202 5 2320 13210	Diode, DS 132			1
C347	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C348	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C349	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C350	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C351	CD2 2 8250 0001V	Electrolytic	2200μF	25V	1
	LED P.C.B. ASSY				
PCB7	4 1329 78861	LED P.C.B. Assy			1
	4 2269 38561	PCB, LED			1
CN8	4 2359 75867	Connector 2P Assy			1
D1	4 2029 71160	LED, SLP-151B (FM Stereo)			1

NOTES:
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

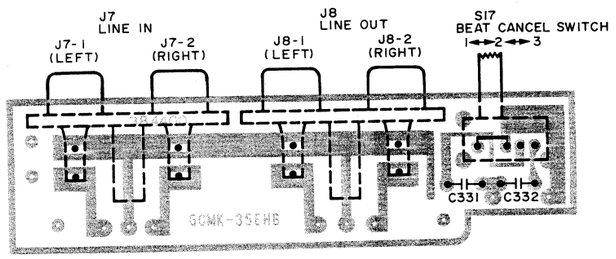
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

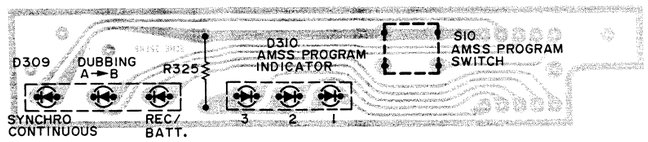
VOLUME CONTROL P.C.BOARD



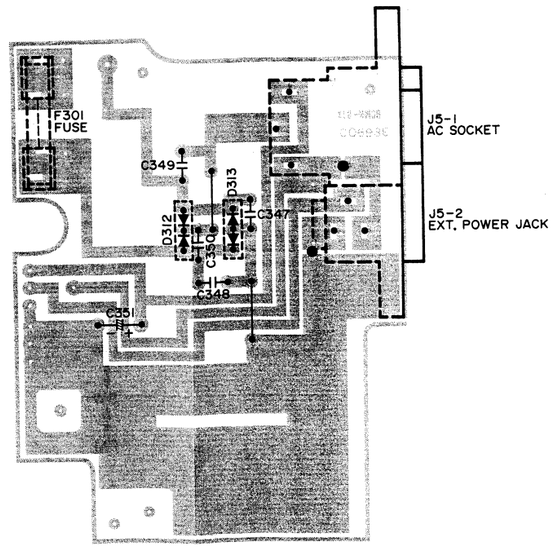
JACK P.C.BOARD



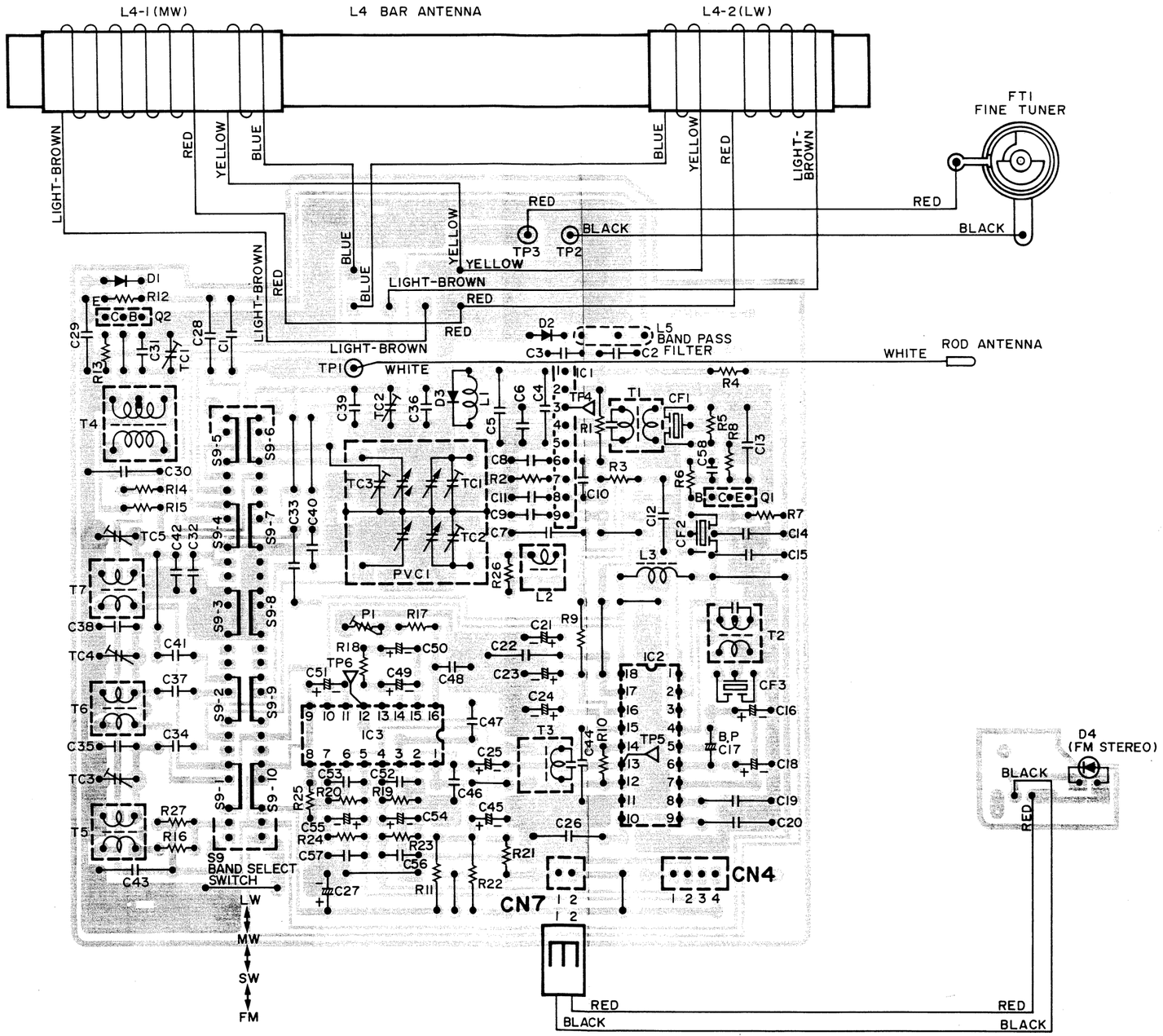
LED INDICATOR P.C.BOARD



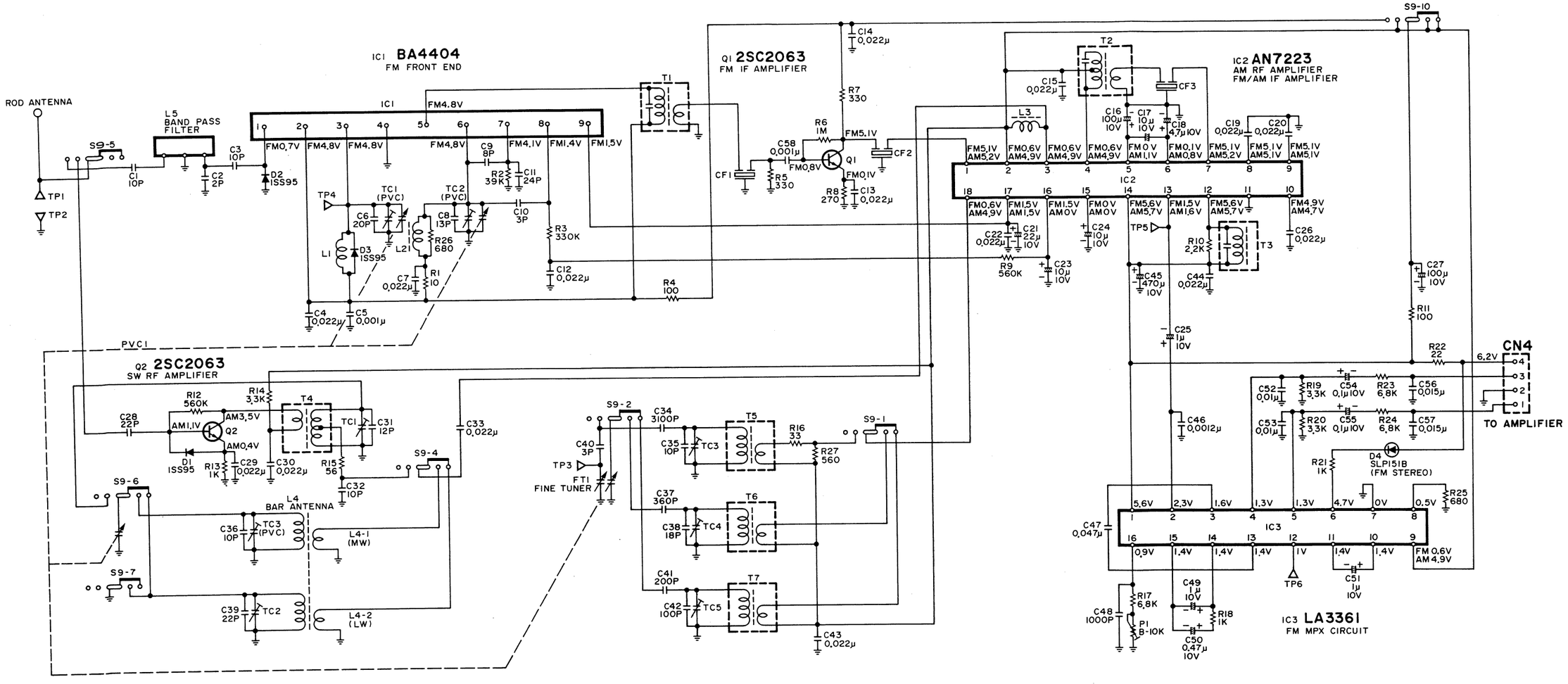
POWER SUPPLY P.C.BOARD



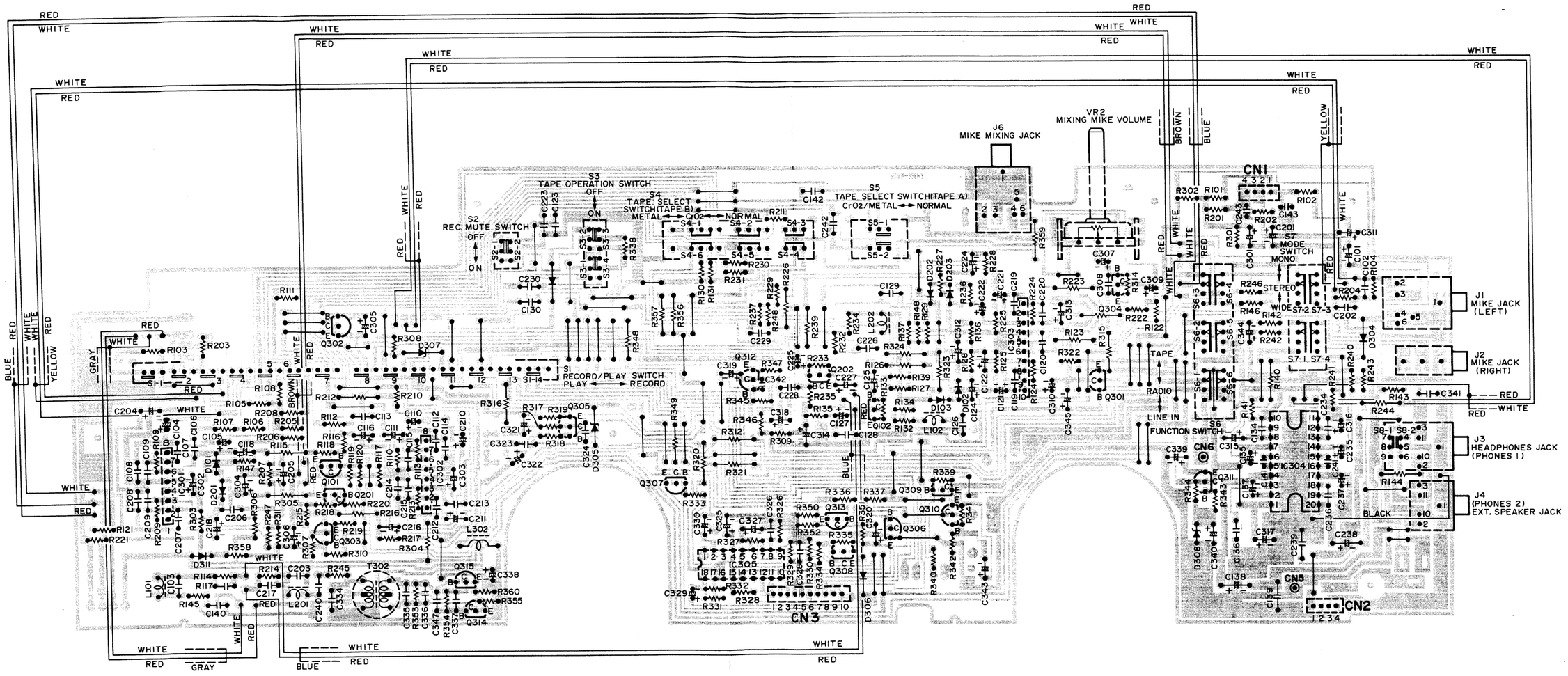
RADIO TUNER P.C.BOARD



SCHEMATIC DIAGRAM (Tuner)



AMPLIFIER P.C.BOARD

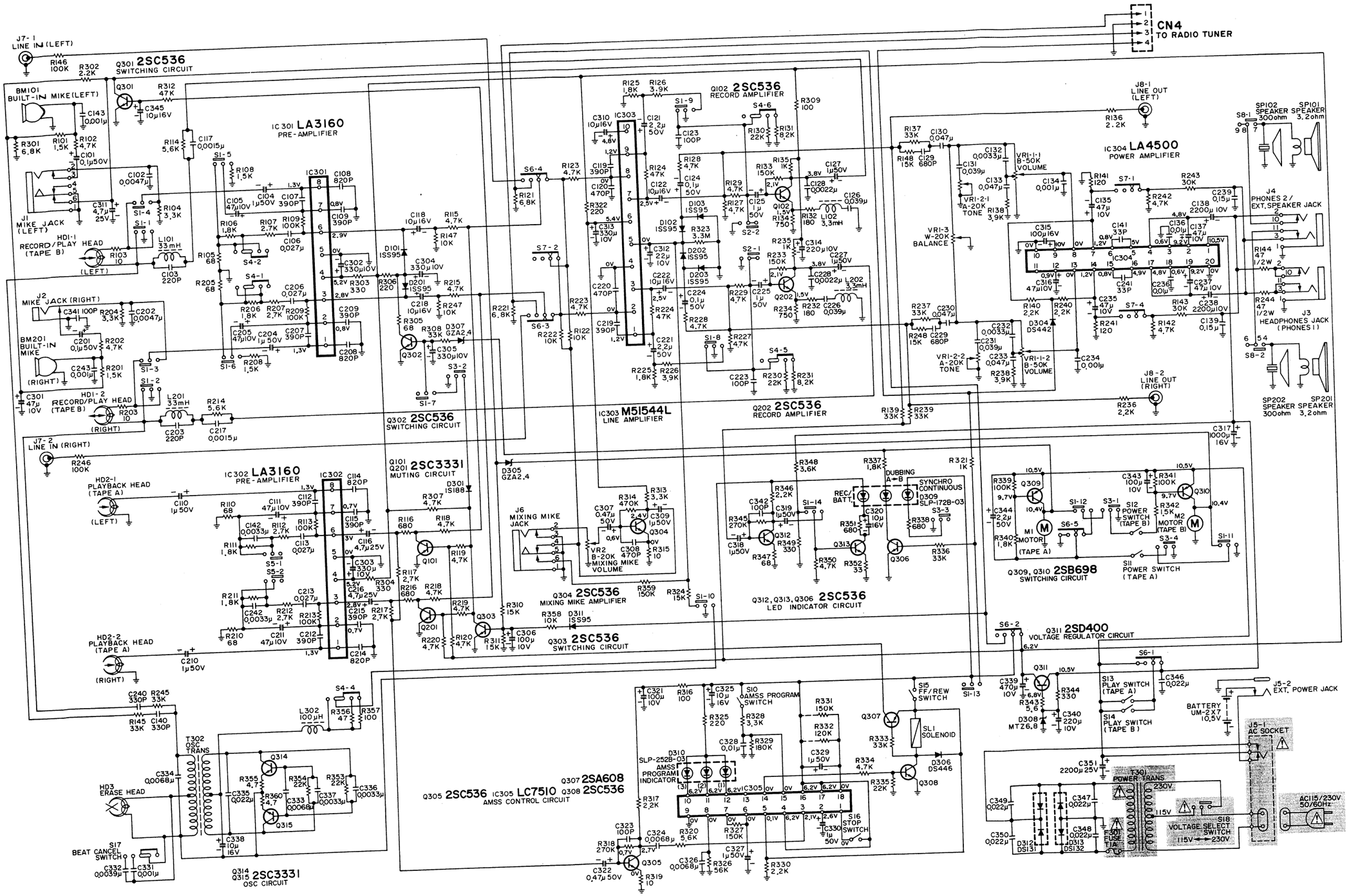


No.	Name	Position	No.	Name	Position	No.	Name	Position
S1	Record/Play Switch	PLAY	S7	Mode Switch	MONO	S13	Play Switch (Tape A)	OFF
S2	Rec. Mute Switch	OFF	S8	Headphones Switch	OFF	S14	Play Switch (Tape B)	OFF
S3	Tape Operation Switch	MANUAL	S9	Band Select Switch	LW	S15	F.FWD/REW Switch	OFF
S4	Tape Select Switch (Tape B)	NORMAL	S10	AMSS Program Switch	OFF	S16	Stop Switch	OFF
S5	Tape Select Switch (Tape A)	NORMAL	S11	Power Switch (Tape A)	OFF	S17	Beat Cancel Switch	1
S6	Function Switch	TAPE	S12	Power Switch (Tape B)	OFF	S18	Voltage Select Switch	230V

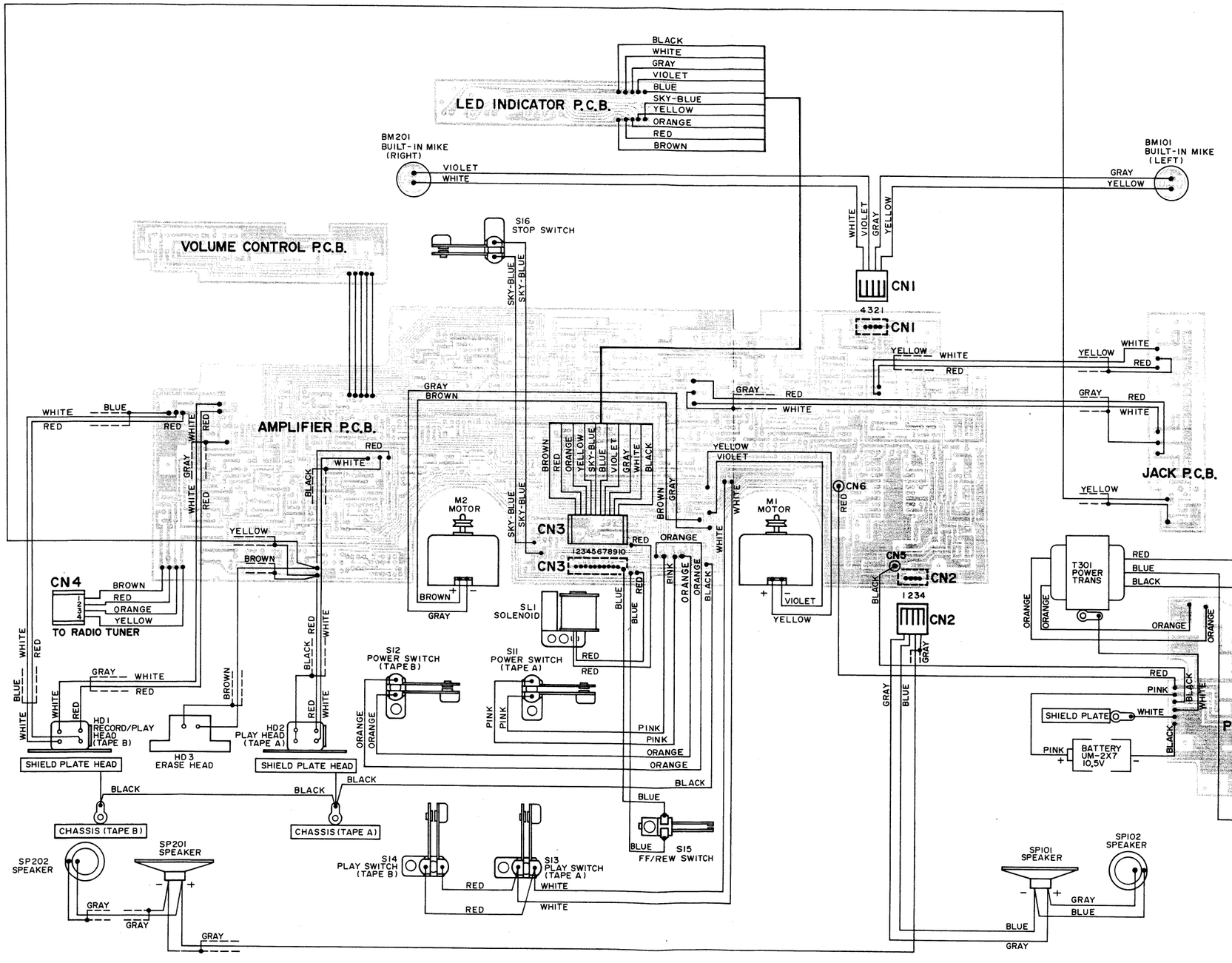
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

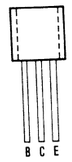
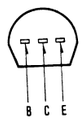
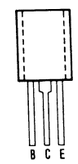
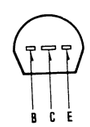
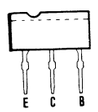
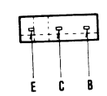
SCHEMATIC DIAGRAM (Amplifier)


CN4 TO RADIO TUNER
IC301 LA3160 PRE-AMPLIFIER
Q301 2SC536 SWITCHING CIRCUIT
Q102 2SC536 RECORD AMPLIFIER
IC304 LA4500 POWER AMPLIFIER
IC303 M51544L LINE AMPLIFIER
Q202 2SC536 RECORD AMPLIFIER
Q302 2SC536 SWITCHING CIRCUIT
IC302 LA3160 PRE-AMPLIFIER
Q101 Q201 2SC3331 MUTING CIRCUIT
Q304 2SC536 MIXING MIKE AMPLIFIER
Q303 2SC536 SWITCHING CIRCUIT
Q312, Q313, Q306 2SC536 LED INDICATOR CIRCUIT
Q309, Q310 2SB698 SWITCHING CIRCUIT
Q311 2SD400 VOLTAGE REGULATOR CIRCUIT
Q314 Q315 2SC3331 OSC CIRCUIT
Q305 2SC536 IC305 LC7510 Q307 2SA608 Q308 2SC536
AMSS CONTROL CIRCUIT
J7-1 LINE IN (LEFT)
J7-2 LINE IN (RIGHT)
J1 MIKE JACK (LEFT)
J2 MIKE JACK (RIGHT)
J6 MIXING MIKE JACK
J8-1 LINE OUT (LEFT)
J8-2 LINE OUT (RIGHT)
J4 PHONES 2 / EXT. SPEAKER JACK
J3 HEADPHONES JACK (PHONES 1)
J5-1 AC SOCKET
J5-2 EXT. POWER JACK
BM101 BUILT-IN MIKE (LEFT)
BM201 BUILT-IN MIKE (RIGHT)
HD1-1 RECORD/PLAY HEAD (TAPE B)
HD1-2 RECORD/PLAY HEAD (TAPE B)
HD2-1 PLAYBACK HEAD (TAPE A)
HD2-2 PLAYBACK HEAD (TAPE A)
HD3 ERASE HEAD
M1 MOTOR (TAPE A)
M2 MOTOR (TAPE B)
SP101 SPEAKER 3.2ohm
SP102 SPEAKER 300ohm
SP201 SPEAKER 3.2ohm
SP202 SPEAKER 300ohm
VR1-1 B-50K VOLUME
VR1-2 B-50K VOLUME
VR1-3 W-20K BALANCE
VR2 B-20K MIXING MIKE VOLUME
VRI-1 A-20K TONE
VRI-2 A-20K TONE
VRI-3 W-20K BALANCE
D103 ISS95
D102 ISS95
D202 ISS95
D203 ISS95
D101 ISS95
D201 ISS95
D301 IS188
D305 GZA2.4
D307 GZA2.4
D311 1S95
D309 SLP-172B-03 DUBBING A→B SYNCHRO CONTINUOUS
D310 SLP-2528-03 AMSS PROGRAM INDICATOR
D304 DS442
D306 DS446
D312 DS131
D313 DS132
S1-1 S1-2 S1-3 S1-4 S1-5 S1-6 S1-7 S1-8 S1-9 S1-10 S1-11 S1-12 S1-13 S1-14 S1 POWER SWITCH (TAPE A)
S2-1 S2-2 S3-1 S3-2 S3-3 S3-4 S4-1 S4-2 S4-3 S4-4 S4-5 S4-6 S5-1 S5-2 S5-3 S5-4 S5-5 S5-6 S6-1 S6-2 S6-3 S6-4 S7-1 S7-2 S7-3 S7-4 S8-1 S8-2
S10 AMSS PROGRAM SWITCH
S11 POWER SWITCH (TAPE A)
S12 POWER SWITCH (TAPE B)
S13 PLAY SWITCH (TAPE A)
S14 PLAY SWITCH (TAPE B)
S15 FF/REW SWITCH
S16 STOP SWITCH
S17 BEAT CANCEL SWITCH
S18 VOLTAGE SELECT SWITCH 115V ← 230V
SL1 SOLENOID
T30 POWER TRANS 230V 115V
T302 OSC TRANS
L302 100μH
F301 FUSE T1A
AC115/230V 50/60Hz
BATTERY UM-2X7 10.5V

WIRING DIAGRAM



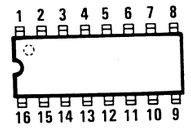
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA608 2SB698 2SC536 2SC3331		
2SD400		
2SC2063		

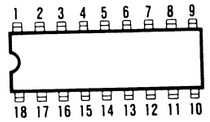
TERMINAL NAME

B → BASE
C → COLLECTOR
E → EMITTER

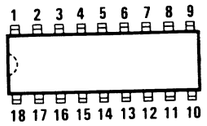
LA3361 BOTTOM VIEW



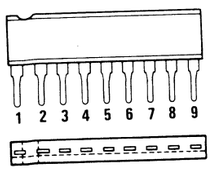
AN7223 BOTTOM VIEW



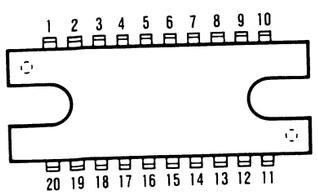
LC7510 BOTTOM VIEW



BA4404 FRONT/BOTTOM VIEWS



LA4500 BOTTOM VIEW



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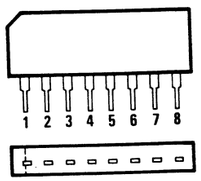
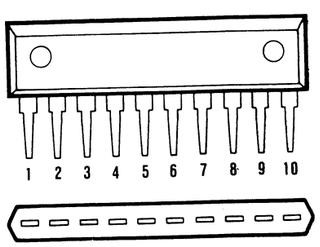
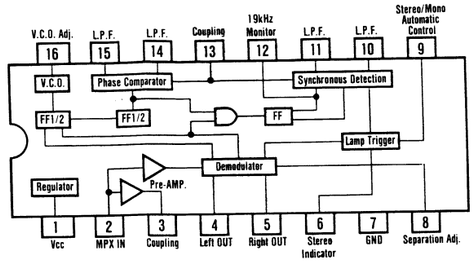


M51544L FRONT/BOTTOM VIEWS



LA3361 BLOCK DIAGRAM



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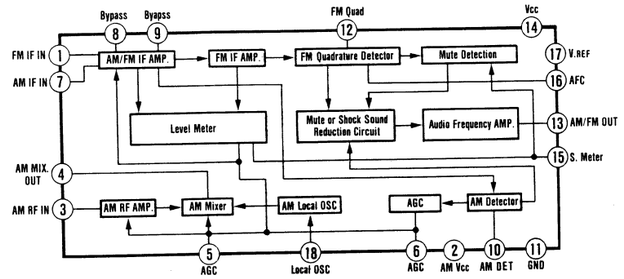

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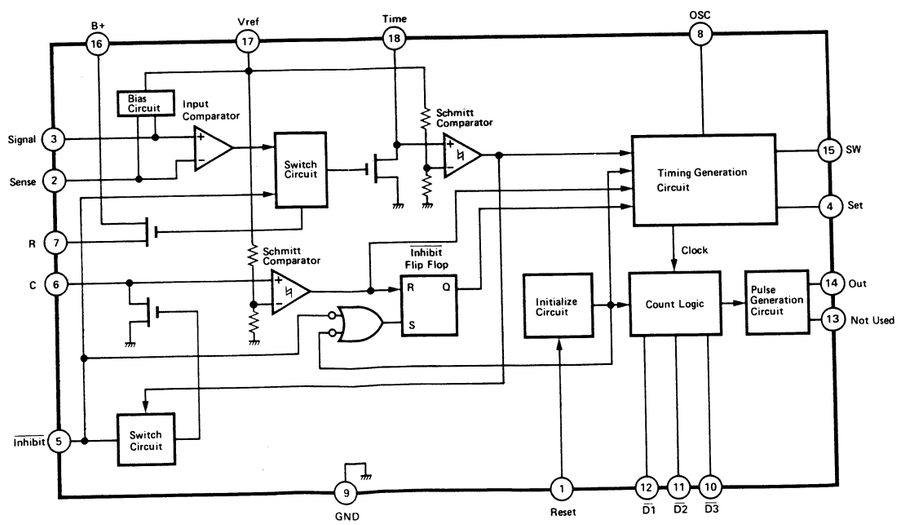
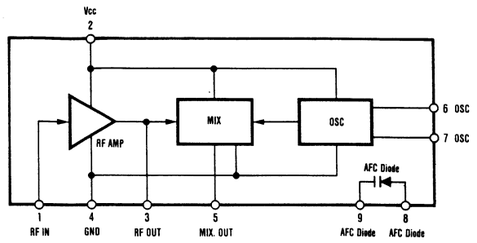


IC & TRANSISTOR LEAD IDENTIFICATION (Continued)

BA4404 BLOCK DIAGRAM



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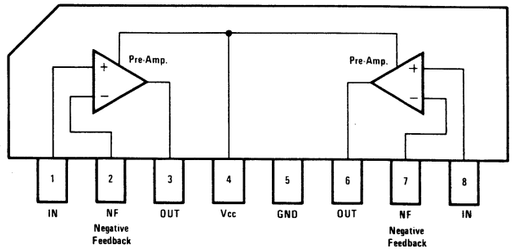
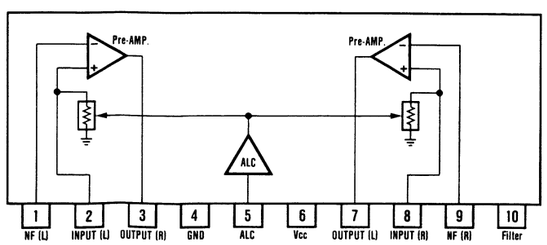


M51544L BLOCK DIAGRAM



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